



September 11, 2012

Brad Davis  
Zia Engineering & Environmental  
755 S Telshor Blvd Ste F-201  
Las Cruces, NM 88011  
TEL: (575) 993-6824  
FAX (575) 532-1587  
RE: HELSTF Construction Landfill

Order No.: 1208256

Dear Brad Davis:

DHL Analytical received 6 sample(s) on 8/29/2012 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of DoD QSM Ver 4.2 and NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. This report shall not be reproduced except in full without the written approval of DHL Analytical, Inc. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in blue ink, appearing to read "John DuPont", is written over a horizontal line.

John DuPont  
General Manager

This report was performed under the accreditation of the State of Texas & DoD Laboratory Certification Number: T104704211-12-8 & DoD ELAP #ADE-1416 v2



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755 S. Teator Blvd. Ste. F-201  
 Las Cruces, NM 88011  
 575-632-1526 n  
 575-632-1587 f

# 1208256

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.		PROJECT NAME			NO. OF CONTAINERS	ANALYSIS REQUESTED							REMARKS
SAMPLER'S SIGNATURE		SAMPLE ID				TOC	VOCs	SVOCs	DRO/GRO	Total Metals	Dissolved Metals	Anions	
DATE	TIME	SAMPLE ID	MATRIX	LAB NO.									
8-28-12	1140	HLSF-3839-HMW-008-0812	Water		16	X	X	X	X	X	X	Anions = Sulfate Chloride, Alkalinity pH	
8-28-12	1140	HLSF-3839-HMW-008-0812-T6	Water		2		X						
8-28-12	1335	HLSF-3839-HMW-035-0812	Water		16	X	X	X	X	X	X	Metals = As, Ba, Cd, Cr, Pb, Se, Ag, Na, Ca, K, Mg, Hg	

PROJECT INFORMATION	SAMPLES RECEIVED	407	1. RELINQUISHED BY: (SIGNATURE) <i>Bradley Davis</i> (PRINTED NAME) Bradley Davis	2. RELINQUISHED BY: (SIGNATURE) <i>Jed</i> (PRINTED NAME)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER	TOTAL NO. OF CONTAINERS		RECEIVED BY: (SIGNATURE) <i>Jed</i> (TIME/DATE)	RECEIVED BY: (SIGNATURE) <i>[Signature]</i> (TIME/DATE)	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	407			(COMPANY)
	GOOD CONDITION: FILLED	1-8			(TIME/DATE)
TRAC	CONFORMS TO RECORD	<i>Mon 8/27</i>	SPECIAL INSTRUCTIONS/COMMENTS: See Attached Analyte List		
Fed Ex					



755 S. Telesior Blvd. Ste. F-201  
 Las Cruces, NM 89011  
 575-532-1526 u  
 575-532-1587 f

### CHAIN OF CUSTODY RECORD

# 1208202e  
 PAGE 1 OF 1

PROJECT NO.		PROJECT NAME			NO. OF CONTAINERS	ANALYSIS REQUESTED							REMARKS
SAMPLE'S SIGNATURE		HELSTF Construction Landfill				TOC	VOCs	SVOCs	DRO/GRO	Total Metals	Dissolved Metals	Anions	
DATE	TIME	SAMPLE ID	MATRIX	LAB NO.									
04 8-28-12	1335	HLSF-3839-HMW-135-0812	Water		15	X	X	X	X	X	X	Anions = Sulfate, Chloride, Alkalinity, pH	
05 8-28-12	1530	HLSF-3839-HMW-034-0812	Water		15	X	X	X	X	X	X		
06 8-28-12	1335	HLSF-3839-HMW-135-0812-T13			2		X					Metals = As, Ba, Cd, Cr, Pb, Se, Ag, Na, Ca, K, Mg, Hg	

PROJECT INFORMATION	SAMPLES RECEIVED	yes	1. RELINQUISHED BY: (SIGNATURE) <i>Bradley T. Davis</i>	2. RELINQUISHED BY: (SIGNATURE) <i>Jerry</i>	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME)	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	yes	RECEIVED BY: (SIGNATURE) <i>Jerry</i>	RECEIVED BY: (SIGNATURE) <i>Bradley T. Davis</i>	(COMPANY)
VIA: Fed Ex	GOOD CONDITION: HILLED	3.23	(TIME/DATE)	(TIME/DATE) 8/28/93	(TIME/DATE)
	CONFORMS TO RECORD <i>Sherrin #57</i>		SPECIAL INSTRUCTIONS / COMMENTS:		

From: (505) 532-1526  
Zia Engineering

Origin ID: LRUA



JUL29 12:07 PM '09

755 S Talshor Blvd.  
Suite Q-201  
Las Cruces NM 88011

Ship Date: 28AUG12  
ActWgt: 05.0 LB  
CAD: 1022B7640/NET3300

Delivery Address Bar Code



SHIP TO: (512) 388-8222

BILL SENDER

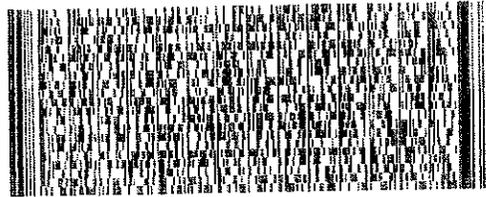
John Dupont  
DHL Analytical  
2300 DOUBLE CREEK DR

ROUND ROCK, TX 78664

Ref # Brad  
Invoice #  
PO # FWSE-09-015 Task 34  
Dept #

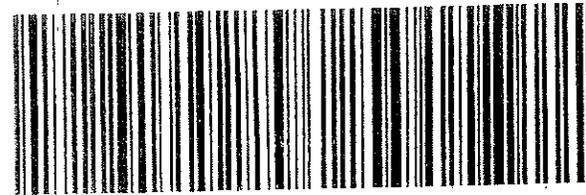
WED - 29 AUG A1  
PRIORITY OVERNIGHT

TRK# 7988 4620 9954  
0201



78664  
TX-US  
AUS

XH BSMA



Broken or damaged package

**GUSTODY SEAL**

DATE: 8/28/12

SIGNATURE: [Signature]

Broken or damaged

**QEC**

Quality Environmental Containers  
800-255-3950 • 304-255-3900

From: (505) 532-1526  
Zia Engineering

Origin ID: LRUA



11239100100305

755 S. Telshor Blvd.  
Suite Q-201  
Las Cruces, NM 88011

Ship Date: 28AUG12  
ActWgt: 65.0 LB  
CAD: 102267640/NET3300

Delivery Address Bar Code



SHIP TO: (512) 388-8222

BILL SENDER

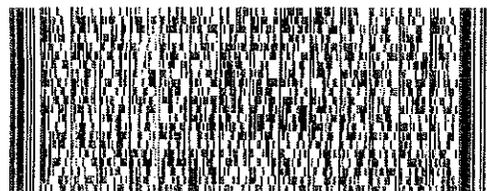
John Dupont  
DHL Analytical  
2300 DOUBLE CREEK DR

ROUND ROCK, TX 78664

Ref # Brad  
Invoice #  
PO # FWSE-09-015 Task 35  
Dept #

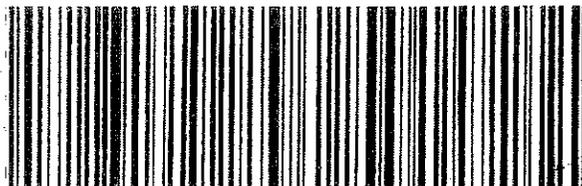
WED - 29 AUG A1  
PRIORITY OVERNIGHT

TRK# 7988 4619 0529  
0201

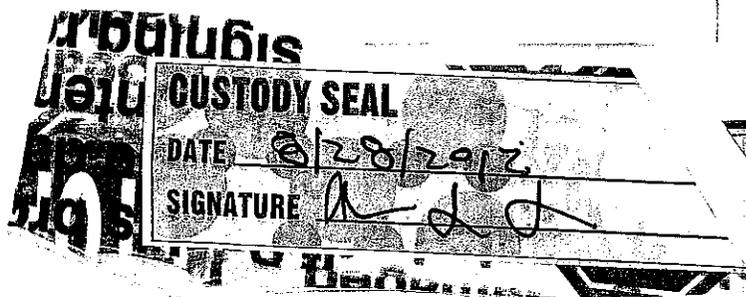


XH BSMA

78664  
TX-US  
AUS



11012267640/NET3300



Sample Receipt Checklist

Client Name Zia Engineering & Environmental

Date Received: 8/29/2012

Work Order Number 1208256

Received by JB

Checklist completed by: [Signature] 8/29/2012  
Signature Date

Reviewed by [Initials] 8/29/2012  
Initials Date

Carrier name: FedEx 1day

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container/Temp Blank temperature in compliance? Yes  No  1.8 °C, 32°
- Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted
- Water - pH acceptable upon receipt? Yes  No  Not Applicable

Adjusted? no Checked by [Signature]

Any No response must be detailed in the comments section below.

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments: One Amber for sample HLF-3839-Hmw-034 was broken in transit, still have sufficient amount to run analysis.

Corrective Action \_\_\_\_\_

# DHL Analytical, Inc.

## Laboratory Review Checklist: Reportable Data

<b>Project Name:</b> HELSTF Construction Landfill		<b>Date:</b> 9/11/12					
<b>Reviewer Name:</b> Carlos Castro		<b>Laboratory Work Order:</b> 1208256					
<b>Prep Batch Number(s):</b> See Prep Dates Report		<b>Run Batch:</b> See Analytical Dates Report					
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	<b>Chain-of-Custody (C-O-C)</b>					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				R1-01
		2) Were all departures from standard conditions described in an exception report?			X		
R2	OI	<b>Sample and Quality Control (QC) Identification</b>					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	<b>Test Reports</b>					
		1) Were all samples prepared and analyzed within holding times?	X				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample quantitation limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			X		
		7) Were % moisture (or solids) reported for all soil and sediment samples?			X		
		8) If required for the project, TICs reported?			X		
R4	O	<b>Surrogate Recovery Data</b>					
		1) Were surrogates added prior to extraction?	X				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			R4-02
R5	OI	<b>Test Reports/Summary Forms for Blank Samples</b>					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations < MQL?		X			R5-04
R6	OI	<b>Laboratory Control Samples (LCS):</b>					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			R6-04
		5) Does the detectability data document the laboratory's capability to detect the COCs at te MDL used to calculate the SQLs?	X				
		6) Was the LCSD RPD within QC limits (if applicable)?		X			R6-06
R7	OI	<b>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data</b>					
		1) Were the project/method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?	X				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			R7-03
		4) Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	<b>Analytical Duplicate Data</b>					
		1) Were appropriate analytical duplicates analyzed for each matrix?	X				
		2) Were analytical duplicates analyzed at the appropriate frequency?	X				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	<b>Method Quantitation Limits (MQLs):</b>					
		1) Are the MQLs for each method analyte included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	<b>Other Problems/Anomalies</b>					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				R10-01
		2) Were all necessary corrective actions performed for the reported data?	X				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

<b>DHL Analytical, Inc.</b>							
<b>Laboratory Review Checklist (continued): Supporting Data</b>							
<b>Project Name:</b> HELSTF Construction Landfill				<b>Date:</b> 9/11/12			
<b>Reviewer Name:</b> Carlos Castro				<b>Laboratory Work Order:</b> 1208256			
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
<b>S1</b>	<b>OI</b>	<b>Initial Calibration (ICAL)</b>					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?		X			<b>S1-06</b>
<b>S2</b>	<b>OI</b>	<b>Initial and Continuing Calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB)</b>					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?		X			<b>S2-02</b>
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
<b>S3</b>	<b>O</b>	<b>Mass Spectral Tuning</b>					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
<b>S4</b>	<b>O</b>	<b>Internal Standards (IS)</b>					
		1) Were IS area counts and retention times within the method-required QC limits?		X			<b>S4-01</b>
<b>S5</b>	<b>OI</b>	<b>Raw Data (NELAC section 1 appendix A glossary, and section 5.12)</b>					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				<b>S5-02</b>
<b>S6</b>	<b>O</b>	<b>Dual Column Confirmation</b>					
		1) Did dual column confirmation results meet the method-required QC?			X		
<b>S7</b>	<b>O</b>	<b>Tentatively Identified Compounds (TICs)</b>					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
<b>S8</b>	<b>I</b>	<b>Interference Check Sample (ICS) Results</b>					
		1) Were percent recoveries within method QC limits?	X				
<b>S9</b>	<b>I</b>	<b>Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions</b>					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X			<b>S9-01</b>
<b>S10</b>	<b>OI</b>	<b>Method Detection Limit (MDL) Studies</b>					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
<b>S11</b>	<b>OI</b>	<b>Proficiency Test Reports</b>					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
<b>S12</b>	<b>OI</b>	<b>Standards Documentation</b>					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
<b>S13</b>	<b>OI</b>	<b>Compound/Analyte Identification Procedures</b>					
		1) Are the procedures for compound/analyte identification documented?	X				
<b>S14</b>	<b>OI</b>	<b>Demonstration of Analyst Competency (DOC)</b>					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
<b>S15</b>	<b>OI</b>	<b>Verification/Validation Documentation for Methods (NELAC Chap 5)</b>					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
<b>S16</b>	<b>OI</b>	<b>Laboratory Standard Operating Procedures (SOPs)</b>					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# Laboratory Data Package Signature Page

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.

The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

**Release Statement:** I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

John DuPont – General Manager

Scott Schroeder – Technical Director



Signature

9/12/12

Date

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**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Lab Order:** 1208256

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**CASE NARRATIVE**

This case narrative describes abnormalities and deviations that may affect the results and summarizes all known issues that need to be highlighted for the data user to assess the results. This case narrative and the report contents are compliant with DoD QSM Ver 4.2 and NELAC.

Samples were analyzed using the methods outlined in the following references:

- Method SW6020 - Metals Analysis (total & dissolved)
- Method SW7470A - Mercury Analysis (total & dissolved)
- Method M8015D - DRO Analysis
- Method M8015V - GRO Analysis
- Method SW8270C - Semivolatile Organics
- Method SW8260C - Volatile Organics
- Method E300 - Anions Analysis
- Method M2320 B - Alkalinity Analysis
- Method M4500-H+ B - pH of a Water
- Method M5310C - TOC Analysis

**Exception Report R1-01**

The samples were received on and log-in performed on 8/29/12. A total of 6 samples were received and all were analyzed. For sample HLSF-3839-HMW-034 one amber bottle was broken in transit. There was sufficient sample amount to proceed with the requested analysis.

**Exception Report R4-02**

For DRO analysis performed on 8/30/12 the surrogate recoveries for the LCS and CCV (CCV1-120830) were out of control limits for Isopropylbenzene or Octacosane. These are flagged accordingly. The remaining surrogates were within control limits. No further corrective actions were taken.

**Exception Report R5-04**

For Semivolatiles analysis performed on 8/31/12 Benzoic acid was detected above the reporting limit in the method blank. This was due to laboratory contamination. All associated samples may be biased high for this compound.

**Exception Report R6-04 & R6-06**

For Semivolatiles analysis performed on 8/31/12 the LCS and LCSD recoveries were below control

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**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Lab Order:** 1208256

## CASE NARRATIVE

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limits for Dimethylphenethylamine and Benzidine. In addition, the LCS and LCSD had the RPD above control limits for Benzidine. These are flagged accordingly in the QC summary report. No further corrective actions were taken.

### Exception Report R7-03

For Metals analysis performed on 9/5/12 and 9/6/12 (batches 53642 & 53667) the matrix spikes and matrix spike duplicate recoveries were out of control limits for some analytes. These are flagged accordingly in the QC summary report. The reference sample selected for the matrix spike and matrix spike duplicate (batch 53667) was from this work order. The reference sample selected for the matrix spike and matrix spike duplicate (batch 53642) was not from this work order. The LCSs were within control limits for these analytes. No further corrective actions were taken.

For Volatiles analysis performed on 8/31/12 the matrix spike and matrix spike duplicate recoveries were below control limits for 2-Chloroethylvinylether. These are flagged accordingly. The reference sample selected for the matrix spike and matrix spike duplicate was not from this work order. The LCS was within control limits for this compound. No further corrective actions were taken.

### Exception Report R10-01

For DRO analysis an MS/MSD was not performed due to insufficient sample volume. An LCS/LCSD was performed instead.

For Semivolatiles analysis an MS/MSD was not performed due to insufficient sample volume. An LCS/LCSD was performed instead.

### Exception Report S1-06

For Semivolatiles analysis, the recovery of Benzidine for the Second Source Calibration Verification was below the method control limits. No further corrective actions were taken.

### Exception Report S2-02

For Semivolatiles analysis, the recoveries of three compounds for the Initial Calibration Verification (ICV-120831) were outside of the method control limits specified in SW8260C (80-120% recovery). These are flagged accordingly in the QC summary report. These compounds were within the method control limits in the associated LCS. No further corrective actions were taken.

### Exception Report S4-01

For Metals analysis (batch 53667) the method blank had a high response for the internal standard Bismuth. The associated analyte (Lead) was below detection limits for this analyte. In addition, the

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**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Lab Order:** 1208256

## CASE NARRATIVE

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LCSD had a high response for the internal standard Bismuth. The associated analyte (Lead) was within control limits for this analyte. No further corrective actions were taken.

### Exception Report S5-02

For Semivolatiles analysis, some samples and/or standards were manually integrated. Please refer to the tables on the last pages of this report for the full list of samples, standards, and the compounds that were manually integrated.

### Exception Report S9-01

For Metals analysis performed on 9/5/12 (batches 53642 & 53667) the RPDs for the serial dilutions were above control limits for Chromium and/or Selenium. These are flagged accordingly in the QC summary report. The PDSs were within control limits for these analytes. No further corrective actions were taken.

A summary of project communication follows:

DHL Analytical received the Project RFQ from the client on 12/29/09. Completed RFQ returned to client via email on 1/07/2010. Purchase Order/Terms and Conditions received and signed and approved by both parties on 01/25/2010.

Brad Davis of Zia requested a bottle kit via email from Jennifer Barker of DHL on 7/27/12.

DHL Bottle kit #3502 sent on 8/13/12 via Lonestar Overnight, to arrive by 8/15/12.

This sample delivery group arrived at DHL Analytical 8/29/12. Sample summary sent via email from Log-in to client on 8/29/12.

All hardcopies for the sample kit request, bill of lading for sample kit sent and login summary are kept in project folder.

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**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Lab Order:** 1208256

**Work Order Sample Summary**

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<b>Lab Smp ID</b>	<b>Client Sample ID</b>	<b>Tag Number</b>	<b>Date Collected</b>	<b>Date Recved</b>
1208256-01	HLSF-3839-HMW-008-0812		08/28/12 11:40 AM	8/29/2012
1208256-02	HLSF-3839-HMW-008-0812-TB		08/28/12 11:40 AM	8/29/2012
1208256-03	HLSF-3839-HMW-035-0812		08/28/12 01:35 PM	8/29/2012
1208256-04	HLSF-3839-HMW-135-0812		08/28/12 01:35 PM	8/29/2012
1208256-05	HLSF-3839-HMW-034-0812		08/28/12 03:30 PM	8/29/2012
1208256-06	HLSF-3839-HMW-135-0812-TB		08/28/12 01:35 PM	8/29/2012

**Lab Order:** 1208256  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**PREP DATES REPORT**

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1208256-01A	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626
1208256-01B	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	09/05/12 11:59 AM	53683
1208256-01C	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	M5310C	TOC prep Aqueous	09/06/12 10:00 AM	53713
1208256-01D	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/05/12 09:07 AM	53669
1208256-01E	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/05/12 09:05 AM	53667
	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/05/12 09:05 AM	53667
	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/05/12 09:07 AM	53669
1208256-01F	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	M2320 B	Alkalinity Preparation	08/29/12 02:00 PM	53584
	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	E300	Anion Preparation	08/29/12 11:30 AM	53567
	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	M4500-H+ B	pH Preparation	08/29/12 12:00 PM	53578
1208256-01G	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	08/30/12 08:23 AM	53588
	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	08/30/12 08:23 AM	53588
1208256-01H	HLSF-3839-HMW-008-0812	08/28/12 11:40 AM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	08/29/12 12:45 PM	53574
1208256-02A	HLSF-3839-HMW-008-0812-TB	08/28/12 11:40 AM	Trip Blank	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626
1208256-03A	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626
1208256-03B	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	09/05/12 11:59 AM	53683
1208256-03C	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	M5310C	TOC prep Aqueous	09/06/12 10:00 AM	53713
1208256-03D	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642

**Lab Order:** 1208256  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**PREP DATES REPORT**

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1208256-03D	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/05/12 09:07 AM	53669
1208256-03E	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/05/12 09:05 AM	53667
	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/05/12 09:05 AM	53667
	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/05/12 09:07 AM	53669
1208256-03F	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	M2320 B	Alkalinity Preparation	08/29/12 02:00 PM	53584
	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	E300	Anion Preparation	08/29/12 11:30 AM	53567
	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	M4500-H+ B	pH Preparation	08/29/12 12:00 PM	53578
1208256-03G	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	08/30/12 08:23 AM	53588
	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	08/30/12 08:23 AM	53588
1208256-03H	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	08/29/12 12:45 PM	53574
	HLSF-3839-HMW-035-0812	08/28/12 01:35 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	08/29/12 12:45 PM	53574
1208256-04A	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626
1208256-04B	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	09/05/12 11:59 AM	53683
1208256-04C	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	M5310C	TOC prep Aqueous	09/06/12 10:00 AM	53713
1208256-04D	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/05/12 09:07 AM	53669
1208256-04E	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/05/12 09:05 AM	53667
	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/05/12 09:05 AM	53667

Lab Order: 1208256  
 Client: Zia Engineering & Environmental  
 Project: HELSTF Construction Landfill

**PREP DATES REPORT**

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1208256-04E	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/05/12 09:07 AM	53669
1208256-04F	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	M2320 B	Alkalinity Preparation	08/29/12 02:00 PM	53584
	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	E300	Anion Preparation	08/29/12 11:30 AM	53567
	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	M4500-H+ B	pH Preparation	08/29/12 12:00 PM	53578
1208256-04G	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	08/30/12 08:23 AM	53588
	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	08/30/12 08:23 AM	53588
1208256-04H	HLSF-3839-HMW-135-0812	08/28/12 01:35 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	08/29/12 12:45 PM	53574
1208256-05A	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626
1208256-05B	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	09/05/12 11:59 AM	53683
1208256-05C	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	M5310C	TOC prep Aqueous	09/06/12 10:00 AM	53713
1208256-05D	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/04/12 09:11 AM	53642
	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/05/12 09:07 AM	53669
1208256-05E	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/05/12 09:05 AM	53667
	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/05/12 09:05 AM	53667
	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/05/12 09:07 AM	53669
1208256-05F	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	M2320 B	Alkalinity Preparation	08/29/12 02:00 PM	53584
	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	E300	Anion Preparation	08/29/12 11:30 AM	53567
	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	M4500-H+ B	pH Preparation	08/29/12 12:00 PM	53578
1208256-05G	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	08/30/12 08:23 AM	53588

**Lab Order:** 1208256  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**PREP DATES REPORT**

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1208256-05G	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	08/30/12 08:23 AM	53588
1208256-05H	HLSF-3839-HMW-034-0812	08/28/12 03:30 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	08/29/12 12:45 PM	53574
1208256-06A	HLSF-3839-HMW-135-0812-TB	08/28/12 01:35 PM	Trip Blank	SW5030C	Purge and Trap Water GC/MS	08/31/12 11:01 AM	53626

**Lab Order:** 1208256  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**ANALYTICAL DATES REPORT**

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1208256-01A	HLSF-3839-HMW-008-0812	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 04:05 PM	GCMS7_120831B
1208256-01B	HLSF-3839-HMW-008-0812	Aqueous	M8015V	TPH Purgeable by GC - Water	53683	1	09/05/12 02:09 PM	GC4_120905A
1208256-01C	HLSF-3839-HMW-008-0812	Aqueous	M5310C	Total Organic Carbon	53713	1	09/06/12 02:07 PM	TOC_120906A
1208256-01D	HLSF-3839-HMW-008-0812	Aqueous	SW7470A	Total Mercury: Aqueous	53669	1	09/06/12 02:54 PM	CETAC_HG_120906C
	HLSF-3839-HMW-008-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	1	09/05/12 12:48 PM	ICP-MS3_120905A
	HLSF-3839-HMW-008-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	200	09/06/12 03:24 PM	ICP-MS3_120906A
1208256-01E	HLSF-3839-HMW-008-0812	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	53667	1	09/05/12 04:24 PM	ICP-MS3_120905A
	HLSF-3839-HMW-008-0812	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	53667	200	09/06/12 02:22 PM	ICP-MS3_120906A
	HLSF-3839-HMW-008-0812	Aqueous	SW7470A	Mercury Filtered (0.45µ)	53669	1	09/06/12 02:56 PM	CETAC_HG_120906C
1208256-01F	HLSF-3839-HMW-008-0812	Aqueous	M2320 B	Alkalinity	53584	1	08/29/12 02:19 PM	TITRATOR_120829B
	HLSF-3839-HMW-008-0812	Aqueous	E300	Anions by IC method - Water	53567	100	08/29/12 12:05 PM	IC_120829A
	HLSF-3839-HMW-008-0812	Aqueous	M4500-H+ B	pH	53578	1	08/29/12 12:22 PM	TITRATOR_120829A
1208256-01G	HLSF-3839-HMW-008-0812	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	53588	1	08/31/12 06:35 PM	GCMS9_120831C
	HLSF-3839-HMW-008-0812	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	53588	1	08/31/12 08:06 PM	GCMS9_120831D
1208256-01H	HLSF-3839-HMW-008-0812	Aqueous	M8015D	TPH Extractable by GC - Water	53574	1	08/30/12 02:45 PM	GC15_120830A
1208256-02A	HLSF-3839-HMW-008-0812-TB	Trip Blank	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 04:29 PM	GCMS7_120831B
1208256-03A	HLSF-3839-HMW-035-0812	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 04:54 PM	GCMS7_120831B
1208256-03B	HLSF-3839-HMW-035-0812	Aqueous	M8015V	TPH Purgeable by GC - Water	53683	1	09/05/12 02:34 PM	GC4_120905A
1208256-03C	HLSF-3839-HMW-035-0812	Aqueous	M5310C	Total Organic Carbon	53713	1	09/06/12 02:28 PM	TOC_120906A
1208256-03D	HLSF-3839-HMW-035-0812	Aqueous	SW7470A	Total Mercury: Aqueous	53669	1	09/06/12 03:03 PM	CETAC_HG_120906C

**Lab Order:** 1208256  
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**ANALYTICAL DATES REPORT**

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1208256-03D	HLSF-3839-HMW-035-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	1	09/05/12 12:54 PM	ICP-MS3_120905A
	HLSF-3839-HMW-035-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	100	09/06/12 02:50 PM	ICP-MS3_120906A
1208256-03E	HLSF-3839-HMW-035-0812	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	53667	1	09/05/12 04:35 PM	ICP-MS3_120905A
	HLSF-3839-HMW-035-0812	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	53667	100	09/06/12 02:33 PM	ICP-MS3_120906A
	HLSF-3839-HMW-035-0812	Aqueous	SW7470A	Mercury Filtered (0.45µ)	53669	1	09/06/12 02:44 PM	CETAC_HG_120906C
1208256-03F	HLSF-3839-HMW-035-0812	Aqueous	M2320 B	Alkalinity	53584	1	08/29/12 02:31 PM	TITRATOR_120829B
	HLSF-3839-HMW-035-0812	Aqueous	E300	Anions by IC method - Water	53567	100	08/29/12 01:32 PM	IC_120829A
	HLSF-3839-HMW-035-0812	Aqueous	M4500-H+ B	pH	53578	1	08/29/12 12:26 PM	TITRATOR_120829A
1208256-03G	HLSF-3839-HMW-035-0812	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	53588	1	08/31/12 06:58 PM	GCMS9_120831C
	HLSF-3839-HMW-035-0812	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	53588	1	08/31/12 08:29 PM	GCMS9_120831D
1208256-03H	HLSF-3839-HMW-035-0812	Aqueous	M8015D	TPH Extractable by GC - Water	53574	1	08/30/12 04:11 PM	GC15_120830A
	HLSF-3839-HMW-035-0812	Aqueous	M8015D	TPH Extractable by GC - Water	53574	1	08/30/12 02:20 PM	GC15_120830A
1208256-04A	HLSF-3839-HMW-135-0812	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 05:18 PM	GCMS7_120831B
1208256-04B	HLSF-3839-HMW-135-0812	Aqueous	M8015V	TPH Purgeable by GC - Water	53683	1	09/05/12 03:00 PM	GC4_120905A
1208256-04C	HLSF-3839-HMW-135-0812	Aqueous	M5310C	Total Organic Carbon	53713	1	09/06/12 02:48 PM	TOC_120906A
1208256-04D	HLSF-3839-HMW-135-0812	Aqueous	SW7470A	Total Mercury: Aqueous	53669	1	09/06/12 03:05 PM	CETAC_HG_120906C
	HLSF-3839-HMW-135-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	1	09/05/12 12:59 PM	ICP-MS3_120905A
	HLSF-3839-HMW-135-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	100	09/06/12 02:56 PM	ICP-MS3_120906A
1208256-04E	HLSF-3839-HMW-135-0812	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	53667	1	09/05/12 04:40 PM	ICP-MS3_120905A
	HLSF-3839-HMW-135-0812	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	53667	100	09/06/12 02:39 PM	ICP-MS3_120906A

Lab Order: 1208256  
 Client: Zia Engineering & Environmental  
 Project: HELSTF Construction Landfill

**ANALYTICAL DATES REPORT**

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1208256-04E	HLSF-3839-HMW-135-0812	Aqueous	SW7470A	Mercury Filtered (0.45µ)	53669	1	09/06/12 03:07 PM	CETAC_HG_120906C
1208256-04F	HLSF-3839-HMW-135-0812	Aqueous	M2320 B	Alkalinity	53584	1	08/29/12 02:37 PM	TITRATOR_120829B
	HLSF-3839-HMW-135-0812	Aqueous	E300	Anions by IC method - Water	53567	100	08/29/12 01:44 PM	IC_120829A
	HLSF-3839-HMW-135-0812	Aqueous	M4500-H+ B	pH	53578	1	08/29/12 12:28 PM	TITRATOR_120829A
1208256-04G	HLSF-3839-HMW-135-0812	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	53588	1	08/31/12 07:20 PM	GCMS9_120831C
	HLSF-3839-HMW-135-0812	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	53588	1	08/31/12 08:52 PM	GCMS9_120831D
1208256-04H	HLSF-3839-HMW-135-0812	Aqueous	M8015D	TPH Extractable by GC - Water	53574	1	08/30/12 02:28 PM	GC15_120830A
1208256-05A	HLSF-3839-HMW-034-0812	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 05:42 PM	GCMS7_120831B
1208256-05B	HLSF-3839-HMW-034-0812	Aqueous	M8015V	TPH Purgeable by GC - Water	53683	1	09/05/12 03:25 PM	GC4_120905A
1208256-05C	HLSF-3839-HMW-034-0812	Aqueous	M5310C	Total Organic Carbon	53713	1	09/06/12 03:09 PM	TOC_120906A
1208256-05D	HLSF-3839-HMW-034-0812	Aqueous	SW7470A	Total Mercury: Aqueous	53669	1	09/06/12 03:09 PM	CETAC_HG_120906C
	HLSF-3839-HMW-034-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	1	09/05/12 01:05 PM	ICP-MS3_120905A
	HLSF-3839-HMW-034-0812	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53642	100	09/06/12 03:01 PM	ICP-MS3_120906A
1208256-05E	HLSF-3839-HMW-034-0812	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	53667	100	09/06/12 02:44 PM	ICP-MS3_120906A
	HLSF-3839-HMW-034-0812	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45µ)	53667	1	09/05/12 04:46 PM	ICP-MS3_120905A
	HLSF-3839-HMW-034-0812	Aqueous	SW7470A	Mercury Filtered (0.45µ)	53669	1	09/06/12 03:11 PM	CETAC_HG_120906C
1208256-05F	HLSF-3839-HMW-034-0812	Aqueous	M2320 B	Alkalinity	53584	1	08/29/12 02:42 PM	TITRATOR_120829B
	HLSF-3839-HMW-034-0812	Aqueous	E300	Anions by IC method - Water	53567	100	08/29/12 01:56 PM	IC_120829A
	HLSF-3839-HMW-034-0812	Aqueous	M4500-H+ B	pH	53578	1	08/29/12 12:30 PM	TITRATOR_120829A
1208256-05G	HLSF-3839-HMW-034-0812	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	53588	1	08/31/12 07:43 PM	GCMS9_120831C

**Lab Order:** 1208256  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**ANALYTICAL DATES REPORT**

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1208256-05G	HLSF-3839-HMW-034-0812	Aqueous	SW8270C	Semivolatiles by GC/MS - Water	53588	1	08/31/12 09:15 PM	GCMS9_120831D
1208256-05H	HLSF-3839-HMW-034-0812	Aqueous	M8015D	TPH Extractable by GC - Water	53574	1	08/30/12 02:37 PM	GC15_120830A
1208256-06A	HLSF-3839-HMW-135-0812-TB	Trip Blank	SW8260C	8260 Water Volatiles by GC/MS	53626	1	08/31/12 06:07 PM	GCMS7_120831B

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-008-0812  
**Lab ID:** 1208256-01  
**Collection Date:** 08/28/12 11:40 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>TPH EXTRACTABLE BY GC - WATER</b>		<b>M8015D</b>					Analyst: <b>DO</b>
TPH-DRO C10-C28	0.0983	0.0500	0.100	J	mg/L	1	08/30/12 02:45 PM
Surr: Isopropylbenzene	61.0	0	47-142		%REC	1	08/30/12 02:45 PM
Surr: Octacosane	110	0	51-124		%REC	1	08/30/12 02:45 PM
<b>TPH PURGEABLE BY GC - WATER</b>		<b>M8015V</b>					Analyst: <b>DEW</b>
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/05/12 02:09 PM
Surr: Tetrachlorethene	107	0	74-138		%REC	1	09/05/12 02:09 PM
<b>MERCURY FILTERED (0.45µ)</b>		<b>SW7470A</b>					Analyst: <b>LM</b>
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/06/12 02:56 PM
<b>TOTAL MERCURY: AQUEOUS</b>		<b>SW7470A</b>					Analyst: <b>LM</b>
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/06/12 02:54 PM
<b>DISSOLVED METALS-ICPMS (0.45µ)</b>		<b>SW6020</b>					Analyst: <b>AJR</b>
Arsenic	0.0135	0.00200	0.00600		mg/L	1	09/05/12 04:24 PM
Barium	0.00964	0.00300	0.0100	J	mg/L	1	09/05/12 04:24 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 04:24 PM
Calcium	432	20.0	60.0		mg/L	200	09/06/12 02:22 PM
Chromium	0.0182	0.00200	0.00600		mg/L	1	09/05/12 04:24 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 04:24 PM
Magnesium	652	20.0	60.0		mg/L	200	09/06/12 02:22 PM
Potassium	62.1	20.0	60.0		mg/L	200	09/06/12 02:22 PM
Selenium	0.0778	0.00200	0.00600		mg/L	1	09/05/12 04:24 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/05/12 04:24 PM
Sodium	2420	20.0	60.0		mg/L	200	09/06/12 02:22 PM
<b>TRACE METALS: ICP-MS - WATER</b>		<b>SW6020</b>					Analyst: <b>AJR</b>
Arsenic	0.0116	0.00200	0.00600		mg/L	1	09/05/12 12:48 PM
Barium	0.0152	0.00300	0.0100		mg/L	1	09/05/12 12:48 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 12:48 PM
Calcium	434	20.0	60.0		mg/L	200	09/06/12 03:24 PM
Chromium	0.0193	0.00200	0.00600		mg/L	1	09/05/12 12:48 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 12:48 PM
Magnesium	653	20.0	60.0		mg/L	200	09/06/12 03:24 PM
Potassium	63.5	20.0	60.0		mg/L	200	09/06/12 03:24 PM
Selenium	0.0654	0.00200	0.00600		mg/L	1	09/05/12 12:48 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/05/12 12:48 PM
Sodium	2460	20.0	60.0		mg/L	200	09/06/12 03:24 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-008-0812  
**Lab ID:** 1208256-01  
**Collection Date:** 08/28/12 11:40 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>			Analyst: <b>DO</b>		
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 06:35 PM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 08:06 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 08:06 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 08:06 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:06 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:06 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 08:06 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-008-0812  
**Lab ID:** 1208256-01  
**Collection Date:** 08/28/12 11:40 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>			Analyst: <b>DO</b>		
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:06 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Benzoic acid	0.0143	0.00200	0.00600		mg/L	1	08/31/12 08:06 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:06 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 08:06 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:06 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:06 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:06 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	08/31/12 06:35 PM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:06 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:06 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 06:35 PM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:06 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	08/31/12 08:06 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM

<b>Qualifiers:</b>	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-008-0812  
**Lab ID:** 1208256-01  
**Collection Date:** 08/28/12 11:40 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>					Analyst: <b>DO</b>
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 06:35 PM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:35 PM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:06 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	08/31/12 08:06 PM
Surr: 2,4,6-Tribromophenol	93.0	0	42-124		%REC	1	08/31/12 06:35 PM
Surr: 2,4,6-Tribromophenol	108	0	42-124		%REC	1	08/31/12 08:06 PM
Surr: 2-Fluorobiphenyl	92.5	0	50-110		%REC	1	08/31/12 06:35 PM
Surr: 2-Fluorobiphenyl	88.5	0	50-110		%REC	1	08/31/12 08:06 PM
Surr: 2-Fluorophenol	55.5	0	20-110		%REC	1	08/31/12 08:06 PM
Surr: 2-Fluorophenol	61.8	0	20-110		%REC	1	08/31/12 06:35 PM
Surr: 4-Terphenyl-d14	94.3	0	51-135		%REC	1	08/31/12 06:35 PM
Surr: 4-Terphenyl-d14	95.5	0	51-135		%REC	1	08/31/12 08:06 PM
Surr: Nitrobenzene-d5	97.8	0	41-110		%REC	1	08/31/12 06:35 PM
Surr: Nitrobenzene-d5	91.2	0	41-110		%REC	1	08/31/12 08:06 PM
Surr: Phenol-d6	38.2	0	20-115		%REC	1	08/31/12 06:35 PM
Surr: Phenol-d6	36.3	0	20-115		%REC	1	08/31/12 08:06 PM
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>					Analyst: <b>KL</b>
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:05 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:05 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:05 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-008-0812  
**Lab ID:** 1208256-01  
**Collection Date:** 08/28/12 11:40 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 04:05 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:05 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 04:05 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:05 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:05 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:05 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:05 PM
Acetone	0.0131	0.00500	0.0150	J	mg/L	1	08/31/12 04:05 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 04:05 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:05 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:05 PM

<b>Qualifiers:</b>	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-008-0812  
**Lab ID:** 1208256-01  
**Collection Date:** 08/28/12 11:40 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:05 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 04:05 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:05 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:05 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:05 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:05 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:05 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 04:05 PM
Surr: 1,2-Dichloroethane-d4	101	0	70-120		%REC	1	08/31/12 04:05 PM
Surr: 4-Bromofluorobenzene	110	0	75-120		%REC	1	08/31/12 04:05 PM
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	08/31/12 04:05 PM
Surr: Toluene-d8	102	0	85-120		%REC	1	08/31/12 04:05 PM
<b>ANIONS BY IC METHOD - WATER</b>		<b>E300</b>			Analyst: <b>JBC</b>		
Chloride	1340	30.0	100		mg/L	100	08/29/12 12:05 PM
Sulfate	7770	100	300		mg/L	100	08/29/12 12:05 PM
<b>ALKALINITY</b>		<b>M2320 B</b>			Analyst: <b>JBC</b>		
Alkalinity, Bicarbonate (As CaCO3)	247	10.0	20.0		mg/L	1	08/29/12 02:19 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	08/29/12 02:19 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	08/29/12 02:19 PM
Alkalinity, Total (As CaCO3)	247	10.0	20.0		mg/L	1	08/29/12 02:19 PM
<b>PH</b>		<b>M4500-H+ B</b>			Analyst: <b>JBC</b>		
pH	7.60	0	0		pH Units	1	08/29/12 12:22 PM
<b>TOTAL ORGANIC CARBON</b>		<b>M5310C</b>			Analyst: <b>JCG</b>		
Total Organic Carbon	0.580	0.300	1.00	J	mg/L	1	09/06/12 02:07 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-008-0812-TB  
**Lab ID:** 1208256-02  
**Collection Date:** 08/28/12 11:40 AM  
**Matrix:** TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
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**8260 WATER VOLATILES BY GC/MS**

**SW8260C**

Analyst: **KL**

1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:29 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:29 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:29 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 04:29 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:29 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 04:29 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:29 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:29 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:29 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:29 PM
Acetone	0.00814	0.00500	0.0150	J	mg/L	1	08/31/12 04:29 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 04:29 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:29 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM

<b>Qualifiers:</b>	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-008-0812-TB  
**Lab ID:** 1208256-02  
**Collection Date:** 08/28/12 11:40 AM  
**Matrix:** TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:29 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:29 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 04:29 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:29 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:29 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:29 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:29 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:29 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 04:29 PM
Surr: 1,2-Dichloroethane-d4	102	0	70-120		%REC	1	08/31/12 04:29 PM
Surr: 4-Bromofluorobenzene	109	0	75-120		%REC	1	08/31/12 04:29 PM
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	08/31/12 04:29 PM
Surr: Toluene-d8	101	0	85-120		%REC	1	08/31/12 04:29 PM

<b>Qualifiers:</b>	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-035-0812  
**Lab ID:** 1208256-03  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>TPH EXTRACTABLE BY GC - WATER</b>		<b>M8015D</b>		Analyst: <b>DO</b>			
TPH-DRO C10-C28	<0.0500	0.0500	0.100		mg/L	1	08/30/12 04:11 PM
Surr: Isopropylbenzene	50.3	0	47-142		%REC	1	08/30/12 04:11 PM
Surr: Octacosane	104	0	51-124		%REC	1	08/30/12 04:11 PM
<b>TPH PURGEABLE BY GC - WATER</b>		<b>M8015V</b>		Analyst: <b>DEW</b>			
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/05/12 02:34 PM
Surr: Tetrachlorethene	106	0	74-138		%REC	1	09/05/12 02:34 PM
<b>MERCURY FILTERED (0.45µ)</b>		<b>SW7470A</b>		Analyst: <b>LM</b>			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/06/12 02:44 PM
<b>TOTAL MERCURY: AQUEOUS</b>		<b>SW7470A</b>		Analyst: <b>LM</b>			
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/06/12 03:03 PM
<b>DISSOLVED METALS-ICPMS (0.45µ)</b>		<b>SW6020</b>		Analyst: <b>AJR</b>			
Arsenic	0.00965	0.00200	0.00600		mg/L	1	09/05/12 04:35 PM
Barium	0.0119	0.00300	0.0100		mg/L	1	09/05/12 04:35 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 04:35 PM
Calcium	483	10.0	30.0		mg/L	100	09/06/12 02:33 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/05/12 04:35 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 04:35 PM
Magnesium	555	10.0	30.0		mg/L	100	09/06/12 02:33 PM
Potassium	45.2	10.0	30.0		mg/L	100	09/06/12 02:33 PM
Selenium	0.271	0.00200	0.00600		mg/L	1	09/05/12 04:35 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/05/12 04:35 PM
Sodium	2050	10.0	30.0		mg/L	100	09/06/12 02:33 PM
<b>TRACE METALS: ICP-MS - WATER</b>		<b>SW6020</b>		Analyst: <b>AJR</b>			
Arsenic	0.00928	0.00200	0.00600		mg/L	1	09/05/12 12:54 PM
Barium	0.0128	0.00300	0.0100		mg/L	1	09/05/12 12:54 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 12:54 PM
Calcium	459	10.0	30.0		mg/L	100	09/06/12 02:50 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/05/12 12:54 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 12:54 PM
Magnesium	539	10.0	30.0		mg/L	100	09/06/12 02:50 PM
Potassium	44.0	10.0	30.0		mg/L	100	09/06/12 02:50 PM
Selenium	0.240	0.00200	0.00600		mg/L	1	09/05/12 12:54 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/05/12 12:54 PM
Sodium	1980	10.0	30.0		mg/L	100	09/06/12 02:50 PM

<b>Qualifiers:</b>	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-035-0812  
**Lab ID:** 1208256-03  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>			Analyst: <b>DO</b>		
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 06:58 PM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 08:29 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 08:29 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 08:29 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:29 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:29 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 08:29 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-035-0812  
**Lab ID:** 1208256-03  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>			Analyst: <b>DO</b>		
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:29 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Benzoic acid	0.0122	0.00200	0.00600		mg/L	1	08/31/12 08:29 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:29 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 08:29 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:29 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:29 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:29 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	08/31/12 06:58 PM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:29 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:29 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 06:58 PM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:29 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	08/31/12 08:29 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Zia Engineering & Environmental  
 Project: HELSTF Construction Landfill  
 Project No:  
 Lab Order: 1208256

Client Sample ID: HLSF-3839-HMW-035-0812  
 Lab ID: 1208256-03  
 Collection Date: 08/28/12 01:35 PM  
 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>					Analyst: <b>DO</b>
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 06:58 PM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 06:58 PM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:29 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	08/31/12 08:29 PM
Surr: 2,4,6-Tribromophenol	92.3	0	42-124		%REC	1	08/31/12 06:58 PM
Surr: 2,4,6-Tribromophenol	101	0	42-124		%REC	1	08/31/12 08:29 PM
Surr: 2-Fluorobiphenyl	85.5	0	50-110		%REC	1	08/31/12 06:58 PM
Surr: 2-Fluorobiphenyl	81.8	0	50-110		%REC	1	08/31/12 08:29 PM
Surr: 2-Fluorophenol	55.5	0	20-110		%REC	1	08/31/12 08:29 PM
Surr: 2-Fluorophenol	62.0	0	20-110		%REC	1	08/31/12 06:58 PM
Surr: 4-Terphenyl-d14	90.5	0	51-135		%REC	1	08/31/12 06:58 PM
Surr: 4-Terphenyl-d14	89.2	0	51-135		%REC	1	08/31/12 08:29 PM
Surr: Nitrobenzene-d5	91.8	0	41-110		%REC	1	08/31/12 06:58 PM
Surr: Nitrobenzene-d5	84.5	0	41-110		%REC	1	08/31/12 08:29 PM
Surr: Phenol-d6	38.0	0	20-115		%REC	1	08/31/12 06:58 PM
Surr: Phenol-d6	36.5	0	20-115		%REC	1	08/31/12 08:29 PM
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>					Analyst: <b>KL</b>
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:54 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:54 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:54 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-035-0812  
**Lab ID:** 1208256-03  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 04:54 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 04:54 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 04:54 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:54 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:54 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:54 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:54 PM
Acetone	0.0120	0.00500	0.0150	J	mg/L	1	08/31/12 04:54 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 04:54 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:54 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 04:54 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-035-0812  
**Lab ID:** 1208256-03  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:54 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 04:54 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 04:54 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:54 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:54 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 04:54 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 04:54 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 04:54 PM
Surr: 1,2-Dichloroethane-d4	103	0	70-120		%REC	1	08/31/12 04:54 PM
Surr: 4-Bromofluorobenzene	108	0	75-120		%REC	1	08/31/12 04:54 PM
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	08/31/12 04:54 PM
Surr: Toluene-d8	101	0	85-120		%REC	1	08/31/12 04:54 PM
<b>ANIONS BY IC METHOD - WATER</b>		<b>E300</b>			Analyst: <b>JBC</b>		
Chloride	1170	30.0	100		mg/L	100	08/29/12 01:32 PM
Sulfate	6220	100	300		mg/L	100	08/29/12 01:32 PM
<b>ALKALINITY</b>		<b>M2320 B</b>			Analyst: <b>JBC</b>		
Alkalinity, Bicarbonate (As CaCO3)	180	10.0	20.0		mg/L	1	08/29/12 02:31 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	08/29/12 02:31 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	08/29/12 02:31 PM
Alkalinity, Total (As CaCO3)	180	10.0	20.0		mg/L	1	08/29/12 02:31 PM
<b>PH</b>		<b>M4500-H+ B</b>			Analyst: <b>JBC</b>		
pH	7.48	0	0		pH Units	1	08/29/12 12:26 PM
<b>TOTAL ORGANIC CARBON</b>		<b>M5310C</b>			Analyst: <b>JCG</b>		
Total Organic Carbon	0.591	0.300	1.00	J	mg/L	1	09/06/12 02:28 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-135-0812  
**Lab ID:** 1208256-04  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>TPH EXTRACTABLE BY GC - WATER</b>		<b>M8015D</b>					Analyst: <b>DO</b>
TPH-DRO C10-C28	0.0580	0.0500	0.100	J	mg/L	1	08/30/12 02:28 PM
Surr: Isopropylbenzene	46.9	0	47-142		%REC	1	08/30/12 02:28 PM
Surr: Octacosane	110	0	51-124		%REC	1	08/30/12 02:28 PM
<b>TPH PURGEABLE BY GC - WATER</b>		<b>M8015V</b>					Analyst: <b>DEW</b>
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/05/12 03:00 PM
Surr: Tetrachlorethene	109	0	74-138		%REC	1	09/05/12 03:00 PM
<b>MERCURY FILTERED (0.45µ)</b>		<b>SW7470A</b>					Analyst: <b>LM</b>
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/06/12 03:07 PM
<b>TOTAL MERCURY: AQUEOUS</b>		<b>SW7470A</b>					Analyst: <b>LM</b>
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/06/12 03:05 PM
<b>DISSOLVED METALS-ICPMS (0.45µ)</b>		<b>SW6020</b>					Analyst: <b>AJR</b>
Arsenic	0.00951	0.00200	0.00600		mg/L	1	09/05/12 04:40 PM
Barium	0.0119	0.00300	0.0100		mg/L	1	09/05/12 04:40 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 04:40 PM
Calcium	475	10.0	30.0		mg/L	100	09/06/12 02:39 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/05/12 04:40 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 04:40 PM
Magnesium	545	10.0	30.0		mg/L	100	09/06/12 02:39 PM
Potassium	44.5	10.0	30.0		mg/L	100	09/06/12 02:39 PM
Selenium	0.258	0.00200	0.00600		mg/L	1	09/05/12 04:40 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/05/12 04:40 PM
Sodium	2000	10.0	30.0		mg/L	100	09/06/12 02:39 PM
<b>TRACE METALS: ICP-MS - WATER</b>		<b>SW6020</b>					Analyst: <b>AJR</b>
Arsenic	0.00951	0.00200	0.00600		mg/L	1	09/05/12 12:59 PM
Barium	0.0116	0.00300	0.0100		mg/L	1	09/05/12 12:59 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 12:59 PM
Calcium	483	10.0	30.0		mg/L	100	09/06/12 02:56 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/05/12 12:59 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 12:59 PM
Magnesium	554	10.0	30.0		mg/L	100	09/06/12 02:56 PM
Potassium	45.0	10.0	30.0		mg/L	100	09/06/12 02:56 PM
Selenium	0.253	0.00200	0.00600		mg/L	1	09/05/12 12:59 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/05/12 12:59 PM
Sodium	2050	10.0	30.0		mg/L	100	09/06/12 02:56 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-135-0812  
**Lab ID:** 1208256-04  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
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**SEMIVOLATILES BY GC/MS - WATER**

**SW8270C**

Analyst: **DO**

1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 07:20 PM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 08:52 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 08:52 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 08:52 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:52 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:52 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 08:52 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM

<b>Qualifiers:</b>	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-135-0812  
**Lab ID:** 1208256-04  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>			Analyst: <b>DO</b>		
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:52 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Benzoic acid	0.0133	0.00200	0.00600		mg/L	1	08/31/12 08:52 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:52 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 08:52 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:52 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:52 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:52 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	08/31/12 07:20 PM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:52 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 08:52 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 07:20 PM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 08:52 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	08/31/12 08:52 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Zia Engineering & Environmental  
 Project: HELSTF Construction Landfill  
 Project No:  
 Lab Order: 1208256

Client Sample ID: HLSF-3839-HMW-135-0812  
 Lab ID: 1208256-04  
 Collection Date: 08/28/12 01:35 PM  
 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>					Analyst: <b>DO</b>
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 07:20 PM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:20 PM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 08:52 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	08/31/12 08:52 PM
Surr: 2,4,6-Tribromophenol	92.5	0	42-124		%REC	1	08/31/12 07:20 PM
Surr: 2,4,6-Tribromophenol	104	0	42-124		%REC	1	08/31/12 08:52 PM
Surr: 2-Fluorobiphenyl	89.2	0	50-110		%REC	1	08/31/12 07:20 PM
Surr: 2-Fluorobiphenyl	84.0	0	50-110		%REC	1	08/31/12 08:52 PM
Surr: 2-Fluorophenol	61.0	0	20-110		%REC	1	08/31/12 08:52 PM
Surr: 2-Fluorophenol	67.2	0	20-110		%REC	1	08/31/12 07:20 PM
Surr: 4-Terphenyl-d14	93.5	0	51-135		%REC	1	08/31/12 07:20 PM
Surr: 4-Terphenyl-d14	96.0	0	51-135		%REC	1	08/31/12 08:52 PM
Surr: Nitrobenzene-d5	94.3	0	41-110		%REC	1	08/31/12 07:20 PM
Surr: Nitrobenzene-d5	87.2	0	41-110		%REC	1	08/31/12 08:52 PM
Surr: Phenol-d6	43.0	0	20-115		%REC	1	08/31/12 07:20 PM
Surr: Phenol-d6	40.2	0	20-115		%REC	1	08/31/12 08:52 PM
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>					Analyst: <b>KL</b>
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 05:18 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 05:18 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 05:18 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-135-0812  
**Lab ID:** 1208256-04  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 05:18 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 05:18 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 05:18 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:18 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:18 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:18 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:18 PM
Acetone	0.0157	0.00500	0.0150		mg/L	1	08/31/12 05:18 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 05:18 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:18 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:18 PM

<b>Qualifiers:</b>	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-135-0812  
**Lab ID:** 1208256-04  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 05:18 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 05:18 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:18 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 05:18 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 05:18 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 05:18 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:18 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 05:18 PM
Surr: 1,2-Dichloroethane-d4	102	0	70-120		%REC	1	08/31/12 05:18 PM
Surr: 4-Bromofluorobenzene	109	0	75-120		%REC	1	08/31/12 05:18 PM
Surr: Dibromofluoromethane	103	0	85-115		%REC	1	08/31/12 05:18 PM
Surr: Toluene-d8	101	0	85-120		%REC	1	08/31/12 05:18 PM
<b>ANIONS BY IC METHOD - WATER</b>		<b>E300</b>			Analyst: <b>JBC</b>		
Chloride	1150	30.0	100		mg/L	100	08/29/12 01:44 PM
Sulfate	6130	100	300		mg/L	100	08/29/12 01:44 PM
<b>ALKALINITY</b>		<b>M2320 B</b>			Analyst: <b>JBC</b>		
Alkalinity, Bicarbonate (As CaCO3)	181	10.0	20.0		mg/L	1	08/29/12 02:37 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	08/29/12 02:37 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	08/29/12 02:37 PM
Alkalinity, Total (As CaCO3)	181	10.0	20.0		mg/L	1	08/29/12 02:37 PM
<b>PH</b>		<b>M4500-H+ B</b>			Analyst: <b>JBC</b>		
pH	7.48	0	0		pH Units	1	08/29/12 12:28 PM
<b>TOTAL ORGANIC CARBON</b>		<b>M5310C</b>			Analyst: <b>JCG</b>		
Total Organic Carbon	0.659	0.300	1.00	J	mg/L	1	09/06/12 02:48 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-034-0812  
**Lab ID:** 1208256-05  
**Collection Date:** 08/28/12 03:30 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>TPH EXTRACTABLE BY GC - WATER</b>		<b>M8015D</b>					Analyst: <b>DO</b>
TPH-DRO C10-C28	0.0586	0.0500	0.100	J	mg/L	1	08/30/12 02:37 PM
Surr: Isopropylbenzene	52.6	0	47-142		%REC	1	08/30/12 02:37 PM
Surr: Octacosane	102	0	51-124		%REC	1	08/30/12 02:37 PM
<b>TPH PURGEABLE BY GC - WATER</b>		<b>M8015V</b>					Analyst: <b>DEW</b>
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/05/12 03:25 PM
Surr: Tetrachlorethene	110	0	74-138		%REC	1	09/05/12 03:25 PM
<b>MERCURY FILTERED (0.45µ)</b>		<b>SW7470A</b>					Analyst: <b>LM</b>
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/06/12 03:11 PM
<b>TOTAL MERCURY: AQUEOUS</b>		<b>SW7470A</b>					Analyst: <b>LM</b>
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/06/12 03:09 PM
<b>DISSOLVED METALS-ICPMS (0.45µ)</b>		<b>SW6020</b>					Analyst: <b>AJR</b>
Arsenic	0.0120	0.00200	0.00600		mg/L	1	09/05/12 04:46 PM
Barium	0.0205	0.00300	0.0100		mg/L	1	09/05/12 04:46 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 04:46 PM
Calcium	428	10.0	30.0		mg/L	100	09/06/12 02:44 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/05/12 04:46 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 04:46 PM
Magnesium	515	10.0	30.0		mg/L	100	09/06/12 02:44 PM
Potassium	50.8	10.0	30.0		mg/L	100	09/06/12 02:44 PM
Selenium	0.0154	0.00200	0.00600		mg/L	1	09/05/12 04:46 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/05/12 04:46 PM
Sodium	2160	10.0	30.0		mg/L	100	09/06/12 02:44 PM
<b>TRACE METALS: ICP-MS - WATER</b>		<b>SW6020</b>					Analyst: <b>AJR</b>
Arsenic	0.0124	0.00200	0.00600		mg/L	1	09/05/12 01:05 PM
Barium	0.0195	0.00300	0.0100		mg/L	1	09/05/12 01:05 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 01:05 PM
Calcium	430	10.0	30.0		mg/L	100	09/06/12 03:01 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/05/12 01:05 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/05/12 01:05 PM
Magnesium	518	10.0	30.0		mg/L	100	09/06/12 03:01 PM
Potassium	49.8	10.0	30.0		mg/L	100	09/06/12 03:01 PM
Selenium	0.0146	0.00200	0.00600		mg/L	1	09/05/12 01:05 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/05/12 01:05 PM
Sodium	2180	10.0	30.0		mg/L	100	09/06/12 03:01 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-034-0812  
**Lab ID:** 1208256-05  
**Collection Date:** 08/28/12 03:30 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>			Analyst: <b>DO</b>		
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 07:43 PM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 09:15 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 09:15 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 09:15 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 09:15 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 09:15 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	08/31/12 09:15 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM

<b>Qualifiers:</b>	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-034-0812  
**Lab ID:** 1208256-05  
**Collection Date:** 08/28/12 03:30 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>			Analyst: <b>DO</b>		
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 09:15 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Benzoic acid	0.0106	0.00200	0.00600		mg/L	1	08/31/12 09:15 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 09:15 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 09:15 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 09:15 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 09:15 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 09:15 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	08/31/12 07:43 PM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 09:15 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 09:15 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600		mg/L	1	08/31/12 07:43 PM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 09:15 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	08/31/12 09:15 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-034-0812  
**Lab ID:** 1208256-05  
**Collection Date:** 08/28/12 03:30 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>		<b>SW8270C</b>			Analyst: <b>DO</b>		
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	08/31/12 07:43 PM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 07:43 PM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	08/31/12 09:15 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	08/31/12 09:15 PM
Surr: 2,4,6-Tribromophenol	90.5	0	42-124		%REC	1	08/31/12 07:43 PM
Surr: 2,4,6-Tribromophenol	103	0	42-124		%REC	1	08/31/12 09:15 PM
Surr: 2-Fluorobiphenyl	86.2	0	50-110		%REC	1	08/31/12 07:43 PM
Surr: 2-Fluorobiphenyl	81.0	0	50-110		%REC	1	08/31/12 09:15 PM
Surr: 2-Fluorophenol	56.2	0	20-110		%REC	1	08/31/12 09:15 PM
Surr: 2-Fluorophenol	62.8	0	20-110		%REC	1	08/31/12 07:43 PM
Surr: 4-Terphenyl-d14	91.8	0	51-135		%REC	1	08/31/12 07:43 PM
Surr: 4-Terphenyl-d14	92.0	0	51-135		%REC	1	08/31/12 09:15 PM
Surr: Nitrobenzene-d5	91.0	0	41-110		%REC	1	08/31/12 07:43 PM
Surr: Nitrobenzene-d5	83.8	0	41-110		%REC	1	08/31/12 09:15 PM
Surr: Phenol-d6	40.0	0	20-115		%REC	1	08/31/12 07:43 PM
Surr: Phenol-d6	37.8	0	20-115		%REC	1	08/31/12 09:15 PM
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 05:42 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 05:42 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 05:42 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-034-0812  
**Lab ID:** 1208256-05  
**Collection Date:** 08/28/12 03:30 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 05:42 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 05:42 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 05:42 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:42 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:42 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:42 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:42 PM
Acetone	0.0109	0.00500	0.0150	J	mg/L	1	08/31/12 05:42 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 05:42 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:42 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 05:42 PM

<b>Qualifiers:</b>	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

**DHL Analytical**

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-034-0812  
**Lab ID:** 1208256-05  
**Collection Date:** 08/28/12 03:30 PM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 05:42 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 05:42 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 05:42 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 05:42 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 05:42 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 05:42 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 05:42 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 05:42 PM
Surr: 1,2-Dichloroethane-d4	103	0	70-120		%REC	1	08/31/12 05:42 PM
Surr: 4-Bromofluorobenzene	108	0	75-120		%REC	1	08/31/12 05:42 PM
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	08/31/12 05:42 PM
Surr: Toluene-d8	102	0	85-120		%REC	1	08/31/12 05:42 PM
<b>ANIONS BY IC METHOD - WATER</b>		<b>E300</b>			Analyst: <b>JBC</b>		
Chloride	870	30.0	100		mg/L	100	08/29/12 01:56 PM
Sulfate	6820	100	300		mg/L	100	08/29/12 01:56 PM
<b>ALKALINITY</b>		<b>M2320 B</b>			Analyst: <b>JBC</b>		
Alkalinity, Bicarbonate (As CaCO3)	182	10.0	20.0		mg/L	1	08/29/12 02:42 PM
Alkalinity, Carbonate (As CaCO3)	<10.0	10.0	20.0		mg/L	1	08/29/12 02:42 PM
Alkalinity, Hydroxide (As CaCO3)	<10.0	10.0	20.0		mg/L	1	08/29/12 02:42 PM
Alkalinity, Total (As CaCO3)	182	10.0	20.0		mg/L	1	08/29/12 02:42 PM
<b>PH</b>		<b>M4500-H+ B</b>			Analyst: <b>JBC</b>		
pH	7.60	0	0		pH Units	1	08/29/12 12:30 PM
<b>TOTAL ORGANIC CARBON</b>		<b>M5310C</b>			Analyst: <b>JCG</b>		
Total Organic Carbon	0.718	0.300	1.00	J	mg/L	1	09/06/12 03:09 PM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level B Analyte detected in the associated Method Blank  
C Sample Result or QC discussed in the Case Narrative DF Dilution Factor  
E TPH pattern not Gas or Diesel Range Pattern J Analyte detected between MDL and RL  
MDL Method Detection Limit ND Not Detected at the Method Detection Limit  
RL Reporting Limit S Spike Recovery outside control limits  
N Parameter not NELAC certified

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-135-0812-TB  
**Lab ID:** 1208256-06  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:07 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:07 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:07 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	08/31/12 06:07 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	08/31/12 06:07 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	08/31/12 06:07 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:07 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:07 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:07 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:07 PM
Acetone	0.0133	0.00500	0.0150	J	mg/L	1	08/31/12 06:07 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	08/31/12 06:07 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:07 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM

**Qualifiers:**

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

# DHL Analytical

Date: 11-Sep-12

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1208256

**Client Sample ID:** HLSF-3839-HMW-135-0812-TB  
**Lab ID:** 1208256-06  
**Collection Date:** 08/28/12 01:35 PM  
**Matrix:** TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>			Analyst: <b>KL</b>		
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	08/31/12 06:07 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:07 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	08/31/12 06:07 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	08/31/12 06:07 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:07 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:07 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	08/31/12 06:07 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	08/31/12 06:07 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	08/31/12 06:07 PM
Surr: 1,2-Dichloroethane-d4	101	0	70-120		%REC	1	08/31/12 06:07 PM
Surr: 4-Bromofluorobenzene	109	0	75-120		%REC	1	08/31/12 06:07 PM
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	08/31/12 06:07 PM
Surr: Toluene-d8	101	0	85-120		%REC	1	08/31/12 06:07 PM

<b>Qualifiers:</b>	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
	MDL Method Detection Limit	ND Not Detected at the Method Detection Limit
	RL Reporting Limit	S Spike Recovery outside control limits
	N Parameter not NELAC certified	

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

**ANALYTICAL QC SUMMARY REPORT**

**RunID: GC15\_120830A**

The QC data in batch 53574 applies to the following samples: 1208256-01H, 1208256-03H, 1208256-04H, 1208256-05H

Sample ID: <b>LCS-53574</b>	Batch ID: <b>53574</b>	TestNo: <b>M8015D</b>	Units: <b>mg/L</b>
SampType: <b>LCS</b>	Run ID: <b>GC15_120830A</b>	Analysis Date: <b>8/30/2012 10:05:51 AM</b>	Prep Date: <b>8/29/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.07	0.100	1.250	0	85.2	50	114			
Surr: Isopropylbenzene	0.0515		0.1000		51.5	47	142			
Surr: Octacosane	0.0959		0.1000		95.9	51	124			

Sample ID: <b>LCSD-53574</b>	Batch ID: <b>53574</b>	TestNo: <b>M8015D</b>	Units: <b>mg/L</b>
SampType: <b>LCSD</b>	Run ID: <b>GC15_120830A</b>	Analysis Date: <b>8/30/2012 10:14:20 AM</b>	Prep Date: <b>8/29/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.06	0.100	1.250	0	85.0	50	114	0.205	30	
Surr: Isopropylbenzene	0.0378		0.1000		37.8	47	142	0	0	S
Surr: Octacosane	0.0933		0.1000		93.3	51	124	0	0	

Sample ID: <b>MB-53574</b>	Batch ID: <b>53574</b>	TestNo: <b>M8015D</b>	Units: <b>mg/L</b>
SampType: <b>MBLK</b>	Run ID: <b>GC15_120830A</b>	Analysis Date: <b>8/30/2012 10:31:18 AM</b>	Prep Date: <b>8/29/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								
Surr: Isopropylbenzene	0.0735		0.1000		73.5	47	142			
Surr: Octacosane	0.0942		0.1000		94.2	51	124			

**Qualifiers:** B Analyte detected in the associated Method Blank  
 J Analyte detected between MDL and RL  
 ND Not Detected at the Method Detection Limit  
 RL Reporting Limit  
 J Analyte detected between SDL and RL  
 DF Dilution Factor  
 MDL Method Detection Limit  
 R RPD outside accepted control limits  
 S Spike Recovery outside control limits  
 N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GC15\_120830A**

Sample ID: <b>ICV-120830</b>	Batch ID: <b>R62324</b>	TestNo: <b>M8015D</b>	Units: <b>mg/L</b>
SampType: <b>ICV</b>	Run ID: <b>GC15_120830A</b>	Analysis Date: <b>8/30/2012 9:38:20 AM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	554	0.100	500.0	0	111	80	120			
Surr: Isopropylbenzene	26.2		25.00		105	80	120			
Surr: Octacosane	24.9		25.00		99.4	80	120			

Sample ID: <b>CCV1-120830</b>	Batch ID: <b>R62324</b>	TestNo: <b>M8015D</b>	Units: <b>mg/L</b>
SampType: <b>CCV</b>	Run ID: <b>GC15_120830A</b>	Analysis Date: <b>8/30/2012 11:30:34 AM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	259	0.100	250.0	0	103	80	120			
Surr: Isopropylbenzene	12.9		12.50		104	80	120			
Surr: Octacosane	16.9		12.50		135	80	120			S

Sample ID: <b>CCV2-120830</b>	Batch ID: <b>R62324</b>	TestNo: <b>M8015D</b>	Units: <b>mg/L</b>
SampType: <b>CCV</b>	Run ID: <b>GC15_120830A</b>	Analysis Date: <b>8/30/2012 1:12:17 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	275	0.100	250.0	0	110	80	120			
Surr: Isopropylbenzene	13.5		12.50		108	80	120			
Surr: Octacosane	13.1		12.50		105	80	120			

Sample ID: <b>CCV3-120830</b>	Batch ID: <b>R62324</b>	TestNo: <b>M8015D</b>	Units: <b>mg/L</b>
SampType: <b>CCV</b>	Run ID: <b>GC15_120830A</b>	Analysis Date: <b>8/30/2012 2:53:58 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	283	0.100	250.0	0	113	80	120			
Surr: Isopropylbenzene	13.9		12.50		112	80	120			
Surr: Octacosane	13.5		12.50		108	80	120			

Sample ID: <b>CCV4-120830</b>	Batch ID: <b>R62324</b>	TestNo: <b>M8015D</b>	Units: <b>mg/L</b>
SampType: <b>CCV</b>	Run ID: <b>GC15_120830A</b>	Analysis Date: <b>8/30/2012 4:45:49 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	290	0.100	250.0	0	116	80	120			
Surr: Isopropylbenzene	14.0		12.50		112	80	120			
Surr: Octacosane	14.1		12.50		113	80	120			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GC4\_120905A**

The QC data in batch 53683 applies to the following samples: 1208256-01B, 1208256-03B, 1208256-04B, 1208256-05B

Sample ID: <b>LCS-53683</b>	Batch ID: <b>53683</b>	TestNo: <b>M8015V</b>	Units: <b>mg/L</b>							
SampType: <b>LCS</b>	Run ID: <b>GC4_120905A</b>	Analysis Date: <b>9/5/2012 12:54:08 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.66	0.100	5.000	0	93.2	67	136			
Surr: Tetrachlorethene	0.402		0.4000		101	74	138			

Sample ID: <b>MB-53683</b>	Batch ID: <b>53683</b>	TestNo: <b>M8015V</b>	Units: <b>mg/L</b>							
SampType: <b>MBLK</b>	Run ID: <b>GC4_120905A</b>	Analysis Date: <b>9/5/2012 1:44:28 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	<0.0600	0.100								
Surr: Tetrachlorethene	0.402		0.4000		100	74	138			

Sample ID: <b>1209014-01BMS</b>	Batch ID: <b>53683</b>	TestNo: <b>M8015V</b>	Units: <b>mg/L</b>							
SampType: <b>MS</b>	Run ID: <b>GC4_120905A</b>	Analysis Date: <b>9/5/2012 5:06:14 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.93	0.100	5.000	0	98.5	67	136			
Surr: Tetrachlorethene	0.408		0.4000		102	74	138			

Sample ID: <b>1209014-01BMSD</b>	Batch ID: <b>53683</b>	TestNo: <b>M8015V</b>	Units: <b>mg/L</b>							
SampType: <b>MSD</b>	Run ID: <b>GC4_120905A</b>	Analysis Date: <b>9/5/2012 5:31:01 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.81	0.100	5.000	0	96.3	67	136	2.34	30	
Surr: Tetrachlorethene	0.377		0.4000		94.3	74	138	0	0	

<p><b>Qualifiers:</b></p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GC4\_120905A**

Sample ID: <b>ICV-120905</b>	Batch ID: <b>R62382</b>	TestNo: <b>M8015V</b>	Units: <b>mg/L</b>							
SampType: <b>ICV</b>	Run ID: <b>GC4_120905A</b>	Analysis Date: <b>9/5/2012 12:28:24 PM</b>	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	9.11	0.100	10.00	0	91.1	80	120			
Surr: Tetrachlorethene	0.399		0.4000		99.7	74	138			

Sample ID: <b>CCV1-120905</b>	Batch ID: <b>R62382</b>	TestNo: <b>M8015V</b>	Units: <b>mg/L</b>							
SampType: <b>CCV</b>	Run ID: <b>GC4_120905A</b>	Analysis Date: <b>9/5/2012 5:57:15 PM</b>	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.73	0.100	5.000	0	94.6	80	120			
Surr: Tetrachlorethene	0.342		0.4000		85.6	74	138			

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: CETAC\_HG\_120906C**

The QC data in batch 53669 applies to the following samples: 1208256-01D, 1208256-01E, 1208256-03D, 1208256-03E, 1208256-04D, 1208256-04E, 1208256-05D, 1208256-05E

Sample ID: <b>1208256-03E SD</b>	Batch ID: <b>53669</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>							
SampType: <b>SD</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 2:46:42 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000300	0.00100	0	0				0	10	

Sample ID: <b>1208256-03E PDS</b>	Batch ID: <b>53669</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>							
SampType: <b>PDS</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 2:48:44 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00243	0.000200	0.00250	0	97.2	85	115			

Sample ID: <b>1208256-03E MS</b>	Batch ID: <b>53669</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>							
SampType: <b>MS</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 2:50:47 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00190	0.000200	0.00200	0	95.0	80	120			

Sample ID: <b>1208256-03E MSD</b>	Batch ID: <b>53669</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>							
SampType: <b>MSD</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 2:52:50 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00192	0.000200	0.00200	0	96.0	80	120	1.05	15	

The QC data in batch 53669 applies to the following samples: 1208256-01D, 1208256-01E, 1208256-03D, 1208256-03E, 1208256-04D, 1208256-04E, 1208256-05D, 1208256-05E

Sample ID: <b>MB-53669</b>	Batch ID: <b>53669</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>							
SampType: <b>MBLK</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 2:03:05 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000600	0.000200								

Sample ID: <b>LCS-53669</b>	Batch ID: <b>53669</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>							
SampType: <b>LCS</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 2:15:46 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00195	0.000200	0.00200	0	97.5	85	115			

Sample ID: <b>LCSD-53669</b>	Batch ID: <b>53669</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>							
SampType: <b>LCSD</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 2:24:09 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00191	0.000200	0.00200	0	95.5	85	115	2.07	15	

- Qualifiers:**
- B Analyte detected in the associated Method Blank
  - J Analyte detected between MDL and RL
  - ND Not Detected at the Method Detection Limit
  - RL Reporting Limit
  - J Analyte detected between SDL and RL
  - DF Dilution Factor
  - MDL Method Detection Limit
  - R RPD outside accepted control limits
  - S Spike Recovery outside control limits
  - N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** CETAC\_HG\_120906C

Sample ID: <b>ICV2-120906</b>	Batch ID: <b>R62406</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>
SampType: <b>ICV</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 1:56:41 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Mercury	0.00362	0.000200	0.00400	0	90.5	90	110			
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Sample ID: <b>CCV1-120906</b>	Batch ID: <b>R62406</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>
SampType: <b>CCV</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 2:34:24 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Mercury	0.00196	0.000200	0.00200	0	98.0	90	110			
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Sample ID: <b>CCV2-120906</b>	Batch ID: <b>R62406</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>
SampType: <b>CCV</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 2:59:02 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Mercury	0.00190	0.000200	0.00200	0	95.0	90	110			
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Sample ID: <b>CCV3-120906</b>	Batch ID: <b>R62406</b>	TestNo: <b>SW7470A</b>	Units: <b>mg/L</b>
SampType: <b>CCV</b>	Run ID: <b>CETAC_HG_120906C</b>	Analysis Date: <b>9/6/2012 3:13:28 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Mercury	0.00194	0.000200	0.00200	0	97.0	90	110			
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<b>Qualifiers:</b>	<p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: ICP-MS3\_120905A**

The QC data in batch 53642 applies to the following samples: 1208256-01D, 1208256-03D, 1208256-04D, 1208256-05D

Sample ID: <b>MB-53642</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>MBLK</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 12:14:00 PM</b>	Prep Date: <b>9/4/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.00200	0.00600								
Barium	<0.00300	0.0100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00600								
Lead	<0.000300	0.00100								
Magnesium	<0.100	0.300								
Potassium	<0.100	0.300								
Selenium	<0.00200	0.00600								
Silver	<0.000600	0.00200								
Sodium	<0.100	0.300								

Sample ID: <b>LCS-53642</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>LCS</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 12:20:00 PM</b>	Prep Date: <b>9/4/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.205	0.00600	0.200	0	102	80	120			
Barium	0.211	0.0100	0.200	0	105	80	120			
Cadmium	0.199	0.00100	0.200	0	99.6	80	120			
Calcium	4.94	0.300	5.00	0	98.8	80	120			
Chromium	0.219	0.00600	0.200	0	110	80	120			
Lead	0.205	0.00100	0.200	0	103	80	120			
Magnesium	5.16	0.300	5.00	0	103	80	120			
Potassium	5.05	0.300	5.00	0	101	80	120			
Selenium	0.196	0.00600	0.200	0	98.0	80	120			
Silver	0.195	0.00200	0.200	0	97.4	80	120			
Sodium	5.53	0.300	5.00	0	111	80	120			

Sample ID: <b>LCSD-53642</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>LCSD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 12:26:00 PM</b>	Prep Date: <b>9/4/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.200	0.00600	0.200	0	99.8	80	120	2.57	15	
Barium	0.210	0.0100	0.200	0	105	80	120	0.285	15	
Cadmium	0.197	0.00100	0.200	0	98.3	80	120	1.31	15	
Calcium	4.89	0.300	5.00	0	97.9	80	120	0.976	15	
Chromium	0.219	0.00600	0.200	0	109	80	120	0.137	15	
Lead	0.203	0.00100	0.200	0	102	80	120	1.03	15	
Magnesium	5.03	0.300	5.00	0	101	80	120	2.53	15	
Potassium	4.93	0.300	5.00	0	98.5	80	120	2.45	15	

**Qualifiers:** B Analyte detected in the associated Method Blank      DF Dilution Factor  
J Analyte detected between MDL and RL      MDL Method Detection Limit  
ND Not Detected at the Method Detection Limit      R RPD outside accepted control limits  
RL Reporting Limit      S Spike Recovery outside control limits  
J Analyte detected between SDL and RL      N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: ICP-MS3\_120905A**

Sample ID: <b>LCSD-53642</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>LCSD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 12:26:00 PM</b>	Prep Date: <b>9/4/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.188	0.00600	0.200	0	93.8	80	120	4.48	15	
Silver	0.191	0.00200	0.200	0	95.4	80	120	2.07	15	
Sodium	5.43	0.300	5.00	0	109	80	120	1.86	15	

Sample ID: <b>1208290-03C SD</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>SD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 12:43:00 PM</b>	Prep Date: <b>9/4/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0149	0.0300	0	0.0152				2.10	10	
Barium	<0.0150	0.0500	0	0.0131				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	0.215	0.0300	0	0.198				7.94	10	
Lead	<0.00150	0.00500	0	0				0	10	
Selenium	0.0664	0.0300	0	0.0807				19.4	10	R
Silver	<0.00300	0.0100	0	0				0	10	

Sample ID: <b>1208290-03C PDS</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>PDS</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 1:44:00 PM</b>	Prep Date: <b>9/4/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.220	0.00600	0.200	0.0152	102	75	125			
Barium	0.223	0.0100	0.200	0.0131	105	75	125			
Cadmium	0.179	0.00100	0.200	0	89.3	75	125			
Chromium	0.373	0.00600	0.200	0.198	87.2	75	125			
Lead	0.207	0.00100	0.200	0	104	75	125			
Selenium	0.283	0.00600	0.200	0.0807	101	75	125			
Silver	0.166	0.00200	0.200	0	83.0	75	125			

Sample ID: <b>1208290-03C MS</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>MS</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 1:50:00 PM</b>	Prep Date: <b>9/4/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.237	0.00600	0.200	0.0152	111	80	120			
Barium	0.232	0.0100	0.200	0.0131	109	80	120			
Cadmium	0.185	0.00100	0.200	0	92.5	80	120			
Calcium	311	0.300	5.00	295	326	80	120			S
Chromium	0.379	0.00600	0.200	0.198	90.4	80	120			
Lead	0.219	0.00100	0.200	0	109	80	120			
Magnesium	382	0.300	5.00	386	-82.0	80	120			S
Potassium	60.2	0.300	5.00	54.2	120	80	120			
Selenium	0.305	0.00600	0.200	0.0807	112	80	120			

**Qualifiers:** B Analyte detected in the associated Method Blank      DF Dilution Factor  
J Analyte detected between MDL and RL      MDL Method Detection Limit  
ND Not Detected at the Method Detection Limit      R RPD outside accepted control limits  
RL Reporting Limit      S Spike Recovery outside control limits  
J Analyte detected between SDL and RL      N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_120905A

Sample ID: <b>1208290-03C MS</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>MS</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 1:50:00 PM</b>	Prep Date: <b>9/4/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.173	0.00200	0.200	0	86.6	80	120			
Sodium	2630	0.300	5.00	2680	-940	80	120			S

Sample ID: <b>1208290-03C MSD</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>MSD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 1:55:00 PM</b>	Prep Date: <b>9/4/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.232	0.00600	0.200	0.0152	109	80	120	2.00	15	
Barium	0.226	0.0100	0.200	0.0131	107	80	120	2.27	15	
Cadmium	0.182	0.00100	0.200	0	91.2	80	120	1.42	15	
Calcium	307	0.300	5.00	295	236	80	120	1.46	15	S
Chromium	0.377	0.00600	0.200	0.198	89.2	80	120	0.582	15	
Lead	0.216	0.00100	0.200	0	108	80	120	1.52	15	
Magnesium	380	0.300	5.00	386	-120	80	120	0.499	15	S
Potassium	59.7	0.300	5.00	54.2	111	80	120	0.817	15	
Selenium	0.292	0.00600	0.200	0.0807	105	80	120	4.49	15	
Silver	0.169	0.00200	0.200	0	84.6	80	120	2.39	15	
Sodium	2610	0.300	5.00	2680	-1280	80	120	0.649	15	S

**Qualifiers:**

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: ICP-MS3\_120905A**

The QC data in batch 53667 applies to the following samples: 1208256-01E, 1208256-03E, 1208256-04E, 1208256-05E

Sample ID: <b>MB-53667</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>MBLK</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 3:58:00 PM</b>	Prep Date: <b>9/5/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.00200	0.00600								
Barium	<0.00300	0.0100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00600								
Lead	<0.000300	0.00100								
Magnesium	<0.100	0.300								
Selenium	<0.00200	0.00600								
Silver	<0.000600	0.00200								

Sample ID: <b>LCS-53667</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>LCS</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 4:04:00 PM</b>	Prep Date: <b>9/5/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.211	0.00600	0.200	0	105	80	120			
Barium	0.219	0.0100	0.200	0	110	80	120			
Cadmium	0.209	0.00100	0.200	0	105	80	120			
Calcium	5.54	0.300	5.00	0	111	80	120			
Chromium	0.220	0.00600	0.200	0	110	80	120			
Lead	0.214	0.00100	0.200	0	107	80	120			
Magnesium	5.17	0.300	5.00	0	103	80	120			
Selenium	0.205	0.00600	0.200	0	102	80	120			
Silver	0.197	0.00200	0.200	0	98.3	80	120			

Sample ID: <b>LCSD-53667</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>LCSD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 4:12:00 PM</b>	Prep Date: <b>9/5/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.213	0.00600	0.200	0	106	80	120	0.991	15	
Barium	0.220	0.0100	0.200	0	110	80	120	0.365	15	
Cadmium	0.211	0.00100	0.200	0	106	80	120	1.05	15	
Calcium	5.47	0.300	5.00	0	109	80	120	1.27	15	
Chromium	0.223	0.00600	0.200	0	111	80	120	1.27	15	
Lead	0.217	0.00100	0.200	0	108	80	120	1.07	15	
Magnesium	5.14	0.300	5.00	0	103	80	120	0.485	15	
Selenium	0.207	0.00600	0.200	0	104	80	120	1.21	15	
Silver	0.196	0.00200	0.200	0	98.1	80	120	0.204	15	

**Qualifiers:** B Analyte detected in the associated Method Blank      DF Dilution Factor  
J Analyte detected between MDL and RL      MDL Method Detection Limit  
ND Not Detected at the Method Detection Limit      R RPD outside accepted control limits  
RL Reporting Limit      S Spike Recovery outside control limits  
J Analyte detected between SDL and RL      N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: ICP-MS3\_120905A**

Sample ID: <b>1208256-01E SD</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>SD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 4:29:00 PM</b>	Prep Date: <b>9/5/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0131	0.0300	0	0.0135				2.37	10	
Barium	<0.0150	0.0500	0	0.00964				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	0.0202	0.0300	0	0.0182				10.6	10	R
Lead	<0.00150	0.00500	0	0				0	10	
Selenium	0.0622	0.0300	0	0.0778				22.2	10	R
Silver	<0.00300	0.0100	0	0				0	10	

Sample ID: <b>1208256-01E PDS</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>PDS</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 5:03:00 PM</b>	Prep Date: <b>9/5/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.222	0.00600	0.200	0.0135	105	75	125			
Barium	0.226	0.0100	0.200	0.00964	108	75	125			
Cadmium	0.180	0.00100	0.200	0	89.8	75	125			
Chromium	0.210	0.00600	0.200	0.0182	95.6	75	125			
Lead	0.214	0.00100	0.200	0	107	75	125			
Selenium	0.298	0.00600	0.200	0.0778	110	75	125			
Silver	0.165	0.00200	0.200	0	82.7	75	125			

Sample ID: <b>1208256-01E MS</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>MS</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 5:08:00 PM</b>	Prep Date: <b>9/5/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.238	0.00600	0.200	0.0135	112	80	120			
Barium	0.232	0.0100	0.200	0.00964	111	80	120			
Cadmium	0.186	0.00100	0.200	0	93.0	80	120			
Calcium	447	0.300	5.00	433	288	80	120			S
Chromium	0.199	0.00600	0.200	0.0182	90.5	80	120			
Lead	0.221	0.00100	0.200	0	111	80	120			
Magnesium	585	0.300	5.00	570	306	80	120			S
Selenium	0.331	0.00600	0.200	0.0778	127	80	120			S
Silver	0.173	0.00200	0.200	0	86.4	80	120			

Sample ID: <b>1208256-01E MSD</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>MSD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 5:14:00 PM</b>	Prep Date: <b>9/5/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.245	0.00600	0.200	0.0135	116	80	120	3.03	15	
Barium	0.231	0.0100	0.200	0.00964	111	80	120	0.259	15	
Cadmium	0.183	0.00100	0.200	0	91.7	80	120	1.35	15	

- Qualifiers:**
- B Analyte detected in the associated Method Blank
  - J Analyte detected between MDL and RL
  - ND Not Detected at the Method Detection Limit
  - RL Reporting Limit
  - J Analyte detected between SDL and RL
  - DF Dilution Factor
  - MDL Method Detection Limit
  - R RPD outside accepted control limits
  - S Spike Recovery outside control limits
  - N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: ICP-MS3\_120905A**

Sample ID: <b>1208256-01E MSD</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>MSD</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 5:14:00 PM</b>	Prep Date: <b>9/5/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	448	0.300	5.00	433	300	80	120	0.134	15	S
Chromium	0.208	0.00600	0.200	0.0182	94.9	80	120	4.32	15	
Lead	0.222	0.00100	0.200	0	111	80	120	0.181	15	
Magnesium	595	0.300	5.00	570	510	80	120	1.73	15	S
Selenium	0.332	0.00600	0.200	0.0778	127	80	120	0.302	15	S
Silver	0.170	0.00200	0.200	0	85.1	80	120	1.57	15	

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_120905A

Sample ID: <b>ICV1-120905</b>	Batch ID: <b>R62384</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>ICV</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 11:50:00 AM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0997	0.00600	0.100	0	99.7	90	110			
Barium	0.103	0.0100	0.100	0	103	90	110			
Cadmium	0.0981	0.00100	0.100	0	98.1	90	110			
Calcium	2.42	0.300	2.50	0	96.8	90	110			
Chromium	0.110	0.00600	0.100	0	110	90	110			
Lead	0.102	0.00100	0.100	0	102	90	110			
Magnesium	2.57	0.300	2.50	0	103	90	110			
Potassium	2.47	0.300	2.50	0	98.9	90	110			
Selenium	0.0981	0.00600	0.100	0	98.1	90	110			
Silver	0.0953	0.00200	0.100	0	95.3	90	110			
Sodium	2.69	0.300	2.50	0	107	90	110			

Sample ID: <b>CCV1-120905</b>	Batch ID: <b>R62384</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>CCV</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 2:48:00 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.196	0.00600	0.200	0	97.8	90	110			
Barium	0.206	0.0100	0.200	0	103	90	110			
Cadmium	0.192	0.00100	0.200	0	96.1	90	110			
Calcium	5.19	0.300	5.00	0	104	90	110			
Chromium	0.214	0.00600	0.200	0	107	90	110			
Lead	0.202	0.00100	0.200	0	101	90	110			
Magnesium	4.94	0.300	5.00	0	98.7	90	110			
Potassium	5.26	0.300	5.00	0	105	90	110			
Selenium	0.184	0.00600	0.200	0	92.2	90	110			
Silver	0.181	0.00200	0.200	0	90.6	90	110			
Sodium	5.33	0.300	5.00	0	107	90	110			

Sample ID: <b>CCV2-120905</b>	Batch ID: <b>R62384</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>CCV</b>	Run ID: <b>ICP-MS3_120905A</b>	Analysis Date: <b>9/5/2012 5:42:00 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.201	0.00600	0.200	0	100	90	110			
Barium	0.204	0.0100	0.200	0	102	90	110			
Cadmium	0.193	0.00100	0.200	0	96.5	90	110			
Calcium	5.47	0.300	5.00	0	109	90	110			
Chromium	0.208	0.00600	0.200	0	104	90	110			
Lead	0.203	0.00100	0.200	0	101	90	110			
Magnesium	5.13	0.300	5.00	0	103	90	110			
Selenium	0.194	0.00600	0.200	0	97.2	90	110			
Silver	0.183	0.00200	0.200	0	91.3	90	110			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: ICP-MS3\_120906A**

The QC data in batch 53642 applies to the following samples: 1208256-01D, 1208256-03D, 1208256-04D, 1208256-05D

Sample ID: <b>1208256-01D SD</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>SD</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 3:30:00 PM</b>	Prep Date: <b>9/4/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	434	300	0	434				0.023	10	
Magnesium	670	300	0	653				2.57	10	
Potassium	<100	300	0	63.5				0	10	
Sodium	2600	300	0	2460				5.85	10	

Sample ID: <b>1208256-01D PDS</b>	Batch ID: <b>53642</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>
SampType: <b>PDS</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 3:35:00 PM</b>	Prep Date: <b>9/4/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	1480	60.0	1000	434	104	75	125			
Magnesium	1680	60.0	1000	653	103	75	125			
Potassium	1070	60.0	1000	63.5	101	75	125			
Sodium	3530	60.0	1000	2460	108	75	125			

<p><b>Qualifiers:</b></p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: ICP-MS3\_120906A**

The QC data in batch 53667 applies to the following samples: 1208256-01E, 1208256-03E, 1208256-04E, 1208256-05E

Sample ID: <b>MB-53667</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>MBLK</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 1:57:00 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	<0.100	0.300								
Sodium	<0.100	0.300								

Sample ID: <b>LCS-53667</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>LCS</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 2:05:00 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	5.28	0.300	5.00	0	106	80	120			
Sodium	5.04	0.300	5.00	0	101	80	120			

Sample ID: <b>LCSD-53667</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>LCSD</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 2:10:00 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	5.25	0.300	5.00	0	105	80	120	0.627	15	
Sodium	5.05	0.300	5.00	0	101	80	120	0.317	15	

Sample ID: <b>1208256-01E SD</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>SD</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 2:27:00 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	432	300	0	432				0.046	10	
Magnesium	667	300	0	652				2.35	10	
Potassium	<100	300	0	62.1				0	10	
Sodium	2590	300	0	2420				6.62	10	

Sample ID: <b>1208256-01E PDS</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>PDS</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 3:07:00 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	1470	60.0	1000	432	104	75	125			
Magnesium	1650	60.0	1000	652	99.6	75	125			
Potassium	1060	60.0	1000	62.1	99.7	75	125			
Sodium	3490	60.0	1000	2420	107	75	125			

Sample ID: <b>1208256-01E MS</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>MS</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 3:13:00 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	67.9	60.0	5.00	62.1	117	80	120			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_120906A

Sample ID: <b>1208256-01E MS</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>MS</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 3:13:00 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	2480	60.0	5.00	2420	1080	80	120			S

Sample ID: <b>1208256-01E MSD</b>	Batch ID: <b>53667</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>MSD</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 3:18:00 PM</b>	Prep Date: <b>9/5/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	66.7	60.0	5.00	62.1	93.6	80	120	1.75	15	
Sodium	2460	60.0	5.00	2420	800	80	120	0.567	15	S

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: ICP-MS3\_120906A**

Sample ID: <b>ICV1-120906</b>	Batch ID: <b>R62421</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>ICV</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 1:20:00 PM</b>	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	2.47	0.300	2.50	0	98.9	90	110			
Magnesium	2.52	0.300	2.50	0	101	90	110			
Potassium	2.45	0.300	2.50	0	98.0	90	110			
Sodium	2.49	0.300	2.50	0	99.6	90	110			

Sample ID: <b>CCV1-120906</b>	Batch ID: <b>R62421</b>	TestNo: <b>SW6020</b>	Units: <b>mg/L</b>							
SampType: <b>CCV</b>	Run ID: <b>ICP-MS3_120906A</b>	Analysis Date: <b>9/6/2012 3:41:00 PM</b>	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.21	0.300	5.00	0	104	90	110			
Magnesium	5.07	0.300	5.00	0	101	90	110			
Potassium	5.16	0.300	5.00	0	103	90	110			
Sodium	5.15	0.300	5.00	0	103	90	110			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831C**

The QC data in batch 53588 applies to the following samples: 1208256-01G, 1208256-03G, 1208256-04G, 1208256-05G

Sample ID: <b>LCS-53588</b>	Batch ID: <b>53588</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>							
SampType: <b>LCS</b>	Run ID: <b>GCMS9_120831C</b>	Analysis Date: <b>8/31/2012 2:46:00 PM</b>	Prep Date: <b>8/30/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Chloronaphthalene	0.0321	0.000800	0.0400	0	80.2	45	125			N
1-Naphthylamine	0.0285	0.000800	0.0400	0	71.4	45	125			
2-Naphthylamine	0.0288	0.000800	0.0400	0	72.1	45	125			
2-Picoline	0.0252	0.000800	0.0400	0	63.0	45	125			
3-Methylcholanthrene	0.0365	0.000800	0.0400	0	91.2	45	125			
4-Aminobiphenyl	0.0223	0.000800	0.0400	0	55.8	45	125			
7,12-Dimethylbenz(a)anthracene	0.0373	0.000800	0.0400	0	93.3	45	125			
Dibenz(a,j)acridine	0.0378	0.00400	0.0400	0	94.4	45	125			N
Dimethylphenethylamine	0.0174	0.00600	0.0400	0	43.5	45	125			S
Diphenylamine	0.0685	0.000800	0.0800	0	85.7	45	125			
Ethyl methanesulfonate	0.0333	0.000800	0.0400	0	83.4	45	125			
Methyl methanesulfonate	0.0274	0.000800	0.0400	0	68.5	45	125			
N-Nitrosopiperidine	0.0352	0.000800	0.0400	0	88.1	45	125			
p-Dimethylaminoazobenzene	0.0371	0.000800	0.0400	0	92.6	45	125			N
Pentachloronitrobenzene	0.0380	0.000800	0.0400	0	95.0	45	125			
Phenacetin	0.0398	0.000800	0.0400	0	99.6	45	125			
Pronamide	0.0375	0.000800	0.0400	0	93.8	45	125			
Surr: 2,4,6-Tribromophenol	75.2		80.00		94.0	42	124			
Surr: 2-Fluorobiphenyl	73.2		80.00		91.5	50	110			
Surr: 2-Fluorophenol	65.2		80.00		81.5	20	110			
Surr: 4-Terphenyl-d14	76.8		80.00		96.0	51	135			
Surr: Nitrobenzene-d5	77.4		80.00		96.8	41	110			
Surr: Phenol-d6	46.2		80.00		57.8	20	115			

Sample ID: <b>LCS-53588</b>	Batch ID: <b>53588</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>							
SampType: <b>LCS</b>	Run ID: <b>GCMS9_120831C</b>	Analysis Date: <b>8/31/2012 3:08:00 PM</b>	Prep Date: <b>8/30/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Chloronaphthalene	0.0302	0.000800	0.0400	0	75.4	45	125	6.11	30	N
1-Naphthylamine	0.0298	0.000800	0.0400	0	74.4	45	125	4.19	30	
2-Naphthylamine	0.0296	0.000800	0.0400	0	74.0	45	125	2.60	30	
2-Picoline	0.0230	0.000800	0.0400	0	57.6	45	125	8.96	30	
3-Methylcholanthrene	0.0355	0.000800	0.0400	0	88.6	45	125	2.78	30	
4-Aminobiphenyl	0.0265	0.000800	0.0400	0	66.3	45	125	17.3	30	
7,12-Dimethylbenz(a)anthracene	0.0365	0.000800	0.0400	0	91.2	45	125	2.17	30	
Dibenz(a,j)acridine	0.0371	0.00400	0.0400	0	92.8	45	125	1.71	30	N
Dimethylphenethylamine	0.0168	0.00600	0.0400	0	42.0	45	125	3.51	30	S
Diphenylamine	0.0635	0.000800	0.0800	0	79.4	45	125	7.63	30	
Ethyl methanesulfonate	0.0322	0.000800	0.0400	0	80.5	45	125	3.48	30	
Methyl methanesulfonate	0.0258	0.000800	0.0400	0	64.6	45	125	5.86	30	

**Qualifiers:** B Analyte detected in the associated Method Blank      DF Dilution Factor  
J Analyte detected between MDL and RL      MDL Method Detection Limit  
ND Not Detected at the Method Detection Limit      R RPD outside accepted control limits  
RL Reporting Limit      S Spike Recovery outside control limits  
J Analyte detected between SDL and RL      N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831C**

Sample ID: <b>LCSD-53588</b>	Batch ID: <b>53588</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>LCSD</b>	Run ID: <b>GCMS9_120831C</b>	Analysis Date: <b>8/31/2012 3:08:00 PM</b>	Prep Date: <b>8/30/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosopiperidine	0.0338	0.000800	0.0400	0	84.4	45	125	4.23	30	
p-Dimethylaminoazobenzene	0.0363	0.000800	0.0400	0	90.7	45	125	2.18	30	N
Pentachloronitrobenzene	0.0364	0.000800	0.0400	0	91.1	45	125	4.14	30	
Phenacetin	0.0383	0.000800	0.0400	0	95.7	45	125	3.94	30	
Pronamide	0.0362	0.000800	0.0400	0	90.5	45	125	3.58	30	
Surr: 2,4,6-Tribromophenol	73.4		80.00		91.8	42	124	0	0	
Surr: 2-Fluorobiphenyl	69.8		80.00		87.2	50	110	0	0	
Surr: 2-Fluorophenol	61.2		80.00		76.5	20	110	0	0	
Surr: 4-Terphenyl-d14	74.4		80.00		93.0	51	135	0	0	
Surr: Nitrobenzene-d5	74.6		80.00		93.3	41	110	0	0	
Surr: Phenol-d6	42.6		80.00		53.2	20	115	0	0	

Sample ID: <b>MB-53588</b>	Batch ID: <b>53588</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>MBLK</b>	Run ID: <b>GCMS9_120831C</b>	Analysis Date: <b>8/31/2012 5:27:00 PM</b>	Prep Date: <b>8/30/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Chloronaphthalene	<0.000200	0.000800								N
1-Naphthylamine	<0.000200	0.000800								
2-Naphthylamine	<0.000200	0.000800								
2-Picoline	<0.000200	0.000800								
3-Methylcholanthrene	<0.000200	0.000800								
4-Aminobiphenyl	<0.000200	0.000800								
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000800								
Dibenz(a,j)acridine	<0.00100	0.00400								N
Dimethylphenethylamine	<0.00200	0.00600								
Diphenylamine	<0.000200	0.000800								
Ethyl methanesulfonate	<0.000200	0.000800								
Methyl methanesulfonate	<0.000200	0.000800								
N-Nitrosopiperidine	<0.000200	0.000800								
p-Dimethylaminoazobenzene	<0.000200	0.000800								N
Pentachloronitrobenzene	<0.000200	0.000800								
Phenacetin	<0.000200	0.000800								
Pronamide	<0.000200	0.000800								
Surr: 2,4,6-Tribromophenol	73.6		80.00		92.0	42	124			
Surr: 2-Fluorobiphenyl	74.0		80.00		92.5	50	110			
Surr: 2-Fluorophenol	55.6		80.00		69.5	20	110			
Surr: 4-Terphenyl-d14	76.0		80.00		95.0	51	135			
Surr: Nitrobenzene-d5	79.4		80.00		99.2	41	110			
Surr: Phenol-d6	34.6		80.00		43.2	20	115			

**Qualifiers:**

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831C**

Sample ID: <b>ICV-120831 APP9</b>	Batch ID: <b>R62443</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>ICV</b>	Run ID: <b>GCMS9_120831C</b>	Analysis Date: <b>8/31/2012 12:38:00 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Chloronaphthalene	3.54	0.000800	4.00	0	88.5	80	120			N
1-Naphthylamine	3.47	0.000800	4.00	0	86.8	80	120			
2-Naphthylamine	3.61	0.000800	4.00	0	90.2	80	120			
2-Picoline	3.45	0.000800	4.00	0	86.3	80	120			
3-Methylcholanthrene	3.87	0.000800	4.00	0	96.8	80	120			
4-Aminobiphenyl	4.05	0.000800	4.00	0	101	80	120			
7,12-Dimethylbenz(a)anthracene	3.92	0.000800	4.00	0	98.0	80	120			
Dibenz(a,j)acridine	4.13	0.00400	4.00	0	103	80	120			N
Dimethylphenethylamine	3.53	0.00600	4.00	0	88.2	80	120			
Diphenylamine	3.94	0.000800	4.00	0	98.6	80	120			
Ethyl methanesulfonate	3.32	0.000800	4.00	0	83.0	80	120			
Methyl methanesulfonate	3.36	0.000800	4.00	0	84.0	80	120			
N-Nitrosopiperidine	3.68	0.000800	4.00	0	91.9	80	120			
p-Dimethylaminoazobenzene	4.05	0.000800	4.00	0	101	80	120			N
Pentachloronitrobenzene	3.66	0.000800	4.00	0	91.6	80	120			
Phenacetin	3.92	0.000800	4.00	0	98.1	80	120			
Pronamide	3.71	0.000800	4.00	0	92.8	80	120			
Surr: 2,4,6-Tribromophenol	3830		4000		95.8	80	120			
Surr: 2-Fluorobiphenyl	3570		4000		89.2	80	120			
Surr: 2-Fluorophenol	3660		4000		91.5	80	120			
Surr: 4-Terphenyl-d14	3800		4000		95.0	80	120			
Surr: Nitrobenzene-d5	3670		4000		91.8	80	120			
Surr: Phenol-d6	3370		4000		84.2	80	120			

**Qualifiers:**

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831D**

The QC data in batch 53588 applies to the following samples: 1208256-01G, 1208256-03G, 1208256-04G, 1208256-05G

Sample ID: <b>LCS-53588</b>	Batch ID: <b>53588</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>LCS</b>	Run ID: <b>GCMS9_120831D</b>	Analysis Date: <b>8/31/2012 1:49:00 PM</b>	Prep Date: <b>8/30/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	0.0644	0.000800	0.0800	0	80.5	35	120			
1,2-Diphenylhydrazine	0.0377	0.000800	0.0400	0	94.2	55	115			
1-Methylnaphthalene	0.0304	0.000800	0.0400	0	76.1	45	125			N
2,4,5-Trichlorophenol	0.0344	0.000800	0.0400	0	85.9	50	110			
2,4,6-Trichlorophenol	0.0348	0.000800	0.0400	0	87.1	50	115			
2,4-Dichlorophenol	0.0354	0.000800	0.0400	0	88.5	50	105			
2,4-Dimethylphenol	0.0369	0.000800	0.0400	0	92.3	30	110			
2,4-Dinitrophenol	0.0390	0.00400	0.0400	0	97.4	15	140			
2,4-Dinitrotoluene	0.0346	0.000800	0.0400	0	86.6	50	120			
2,6-Dichlorophenol	0.0354	0.000800	0.0400	0	88.4	35	120			
2,6-Dinitrotoluene	0.0351	0.000800	0.0400	0	87.8	50	115			
2-Chloronaphthalene	0.0419	0.000800	0.0400	0	105	50	105			
2-Chlorophenol	0.0327	0.000800	0.0400	0	81.8	35	105			
2-Methylnaphthalene	0.0335	0.000800	0.0400	0	83.7	45	105			
2-Methylphenol	0.0318	0.000800	0.0400	0	79.6	40	110			
2-Nitroaniline	0.0321	0.000800	0.0400	0	80.3	50	115			
2-Nitrophenol	0.0350	0.000800	0.0400	0	87.6	40	115			
3,3'-Dichlorobenzidine	0.0327	0.00400	0.0400	0	81.8	20	110			
3-Nitroaniline	0.0315	0.000800	0.0400	0	78.8	20	125			
4,6-Dinitro-2-methylphenol	0.0385	0.00200	0.0400	0	96.4	40	130			
4-Bromophenyl phenyl ether	0.0383	0.000800	0.0400	0	95.6	50	115			
4-Chloro-3-methylphenol	0.0385	0.000800	0.0400	0	96.2	45	110			
4-Chloroaniline	0.0307	0.00200	0.0400	0	76.7	15	110			
4-Chlorophenyl phenyl ether	0.0352	0.000800	0.0400	0	88.0	50	110			
4-Methylphenol	0.0319	0.000800	0.0400	0	79.8	30	110			
4-Nitroaniline	0.0300	0.000800	0.0400	0	74.9	35	120			
4-Nitrophenol	0.0202	0.00400	0.0400	0	50.5	20	120			
Acenaphthene	0.0335	0.000800	0.0400	0	83.8	45	110			
Acenaphthylene	0.0358	0.000800	0.0400	0	89.6	50	105			
Acetophenone	0.0625	0.000800	0.0800	0	78.1	45	125			
Aniline	0.0179	0.000800	0.0400	0	44.6	10	140			
Anthracene	0.0363	0.000800	0.0400	0	90.8	55	110			
Benzidine	0.00204	0.00600	0.0400	0	5.10	20	125			S
Benzo[a]anthracene	0.0366	0.000800	0.0400	0	91.5	55	110			
Benzo[a]pyrene	0.0376	0.000800	0.0400	0	94.1	55	110			
Benzo[b]fluoranthene	0.0416	0.000800	0.0400	0	104	45	120			
Benzo[g,h,i]perylene	0.0394	0.000800	0.0400	0	98.5	40	125			
Benzo[k]fluoranthene	0.0377	0.000800	0.0400	0	94.2	45	125			
Benzoic acid	0.00880	0.00600	0.0400	0	22.0	5	120			
Benzyl alcohol	0.0282	0.00200	0.0400	0	70.4	30	110			

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	DF Dilution Factor	
	J Analyte detected between MDL and RL	MDL Method Detection Limit	
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits	
	RL Reporting Limit	S Spike Recovery outside control limits	
	J Analyte detected between SDL and RL	N Parameter not NELAC certified	

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831D**

Sample ID: <b>LCS-53588</b>	Batch ID: <b>53588</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>LCS</b>	Run ID: <b>GCMS9_120831D</b>	Analysis Date: <b>8/31/2012 1:49:00 PM</b>	Prep Date: <b>8/30/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biphenyl	0.0323	0.000800	0.0400	0	80.6	45	125			
Bis(2-chloroethoxy)methane	0.0310	0.000800	0.0400	0	77.6	45	105			
Bis(2-chloroethyl)ether	0.0328	0.000800	0.0400	0	82.0	35	110			
Bis(2-chloroisopropyl)ether	0.0288	0.000800	0.0400	0	72.0	25	130			
Bis(2-ethylhexyl)phthalate	0.0372	0.00300	0.0400	0	92.9	40	125			
Butyl benzyl phthalate	0.0370	0.00600	0.0400	0	92.5	45	115			
Carbazole	0.0354	0.000800	0.0400	0	88.4	50	115			
Chrysene	0.0324	0.000800	0.0400	0	81.1	55	110			
Di-n-butyl phthalate	0.0422	0.00600	0.0400	0	106	55	115			
Di-n-octyl phthalate	0.0456	0.00600	0.0400	0	114	35	135			
Dibenz[a,h]anthracene	0.0409	0.000800	0.0400	0	102	40	125			
Dibenzofuran	0.0324	0.000800	0.0400	0	81.0	55	105			
Diethyl phthalate	0.0358	0.00600	0.0400	0	89.6	40	120			
Dimethyl phthalate	0.0348	0.00600	0.0400	0	87.1	25	125			
Fluoranthene	0.0387	0.000800	0.0400	0	96.9	55	115			
Fluorene	0.0360	0.000800	0.0400	0	90.0	50	110			
Hexachlorobenzene	0.0389	0.000800	0.0400	0	97.4	50	110			
Hexachlorobutadiene	0.0325	0.000800	0.0400	0	81.2	25	105			
Hexachlorocyclopentadiene	0.0275	0.00200	0.0400	0	68.8	25	125			
Hexachloroethane	0.0317	0.000800	0.0400	0	79.2	30	100			
Indeno[1,2,3-cd]pyrene	0.0412	0.000800	0.0400	0	103	45	125			
Isophorone	0.0343	0.000800	0.0400	0	85.7	50	110			
N-Nitrosodi-n-propylamine	0.0383	0.000800	0.0400	0	95.8	35	130			
N-Nitrosodimethylamine	0.0262	0.000800	0.0400	0	65.6	25	110			
N-Nitrosodiphenylamine	0.0824	0.000800	0.0800	0	103	50	110			
Naphthalene	0.0318	0.000800	0.0400	0	79.6	40	100			
Nitrobenzene	0.0338	0.000800	0.0400	0	84.6	45	110			
Pentachlorobenzene	0.0731	0.000800	0.0800	0	91.3	35	120			
Pentachlorophenol	0.0421	0.000800	0.0400	0	105	40	115			
Phenanthrene	0.0334	0.000800	0.0400	0	83.5	50	115			
Phenol	0.0197	0.000800	0.0400	0	49.2	20	115			
Pyrene	0.0328	0.000800	0.0400	0	82.1	50	130			
Pyridine	0.0216	0.00200	0.0400	0	54.0	20	110			
Surr: 2,4,6-Tribromophenol	88.4		80.00		110	42	124			
Surr: 2-Fluorobiphenyl	71.0		80.00		88.8	50	110			
Surr: 2-Fluorophenol	59.4		80.00		74.2	20	110			
Surr: 4-Terphenyl-d14	78.2		80.00		97.8	51	135			
Surr: Nitrobenzene-d5	72.2		80.00		90.3	41	110			
Surr: Phenol-d6	45.0		80.00		56.2	20	115			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831D**

Sample ID: <b>LCSD-53588</b>	Batch ID: <b>53588</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>LCSD</b>	Run ID: <b>GCMS9_120831D</b>	Analysis Date: <b>8/31/2012 2:12:00 PM</b>	Prep Date: <b>8/30/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	0.0609	0.000800	0.0800	0	76.1	35	120	5.65	30	
1,2-Diphenylhydrazine	0.0348	0.000800	0.0400	0	86.9	55	115	8.01	30	
1-Methylnaphthalene	0.0285	0.000800	0.0400	0	71.2	45	125	6.65	30	N
2,4,5-Trichlorophenol	0.0330	0.000800	0.0400	0	82.5	50	110	4.10	30	
2,4,6-Trichlorophenol	0.0320	0.000800	0.0400	0	80.0	50	115	8.44	30	
2,4-Dichlorophenol	0.0332	0.000800	0.0400	0	83.0	50	105	6.35	30	
2,4-Dimethylphenol	0.0344	0.000800	0.0400	0	86.0	30	110	7.07	30	
2,4-Dinitrophenol	0.0368	0.00400	0.0400	0	91.9	15	140	5.81	30	
2,4-Dinitrotoluene	0.0334	0.000800	0.0400	0	83.6	50	120	3.53	30	
2,6-Dichlorophenol	0.0325	0.000800	0.0400	0	81.3	35	120	8.42	30	
2,6-Dinitrotoluene	0.0330	0.000800	0.0400	0	82.5	50	115	6.23	30	
2-Chloronaphthalene	0.0390	0.000800	0.0400	0	97.5	50	105	7.22	30	
2-Chlorophenol	0.0309	0.000800	0.0400	0	77.2	35	105	5.85	30	
2-Methylnaphthalene	0.0316	0.000800	0.0400	0	79.0	45	105	5.71	30	
2-Methylphenol	0.0296	0.000800	0.0400	0	74.1	40	110	7.22	30	
2-Nitroaniline	0.0304	0.000800	0.0400	0	75.9	50	115	5.63	30	
2-Nitrophenol	0.0330	0.000800	0.0400	0	82.4	40	115	6.12	30	
3,3'-Dichlorobenzidine	0.0318	0.00400	0.0400	0	79.6	20	110	2.73	30	
3-Nitroaniline	0.0302	0.000800	0.0400	0	75.5	20	125	4.21	30	
4,6-Dinitro-2-methylphenol	0.0355	0.00200	0.0400	0	88.7	40	130	8.27	30	
4-Bromophenyl phenyl ether	0.0355	0.000800	0.0400	0	88.8	50	115	7.48	30	
4-Chloro-3-methylphenol	0.0358	0.000800	0.0400	0	89.6	45	110	7.16	30	
4-Chloroaniline	0.0291	0.00200	0.0400	0	72.8	15	110	5.15	30	
4-Chlorophenyl phenyl ether	0.0335	0.000800	0.0400	0	83.6	50	110	5.13	30	
4-Methylphenol	0.0295	0.000800	0.0400	0	73.7	30	110	7.95	30	
4-Nitroaniline	0.0282	0.000800	0.0400	0	70.6	35	120	5.91	30	
4-Nitrophenol	0.0185	0.00400	0.0400	0	46.2	20	120	9.00	30	
Acenaphthene	0.0319	0.000800	0.0400	0	79.8	45	110	4.89	30	
Acenaphthylene	0.0336	0.000800	0.0400	0	84.1	50	105	6.39	30	
Acetophenone	0.0593	0.000800	0.0800	0	74.1	45	125	5.22	30	
Aniline	0.0167	0.000800	0.0400	0	41.7	10	140	6.83	30	
Anthracene	0.0333	0.000800	0.0400	0	83.2	55	110	8.68	30	
Benzidine	0.00676	0.00600	0.0400	0	16.9	20	125	107	30	SR
Benzo[a]anthracene	0.0343	0.000800	0.0400	0	85.7	55	110	6.60	30	
Benzo[a]pyrene	0.0361	0.000800	0.0400	0	90.3	55	110	4.18	30	
Benzo[b]fluoranthene	0.0395	0.000800	0.0400	0	98.6	45	120	5.33	30	
Benzo[g,h,i]perylene	0.0375	0.000800	0.0400	0	93.8	40	125	4.94	30	
Benzo[k]fluoranthene	0.0361	0.000800	0.0400	0	90.3	45	125	4.23	30	
Benzoic acid	0.0104	0.00600	0.0400	0	26.0	5	120	16.7	30	
Benzyl alcohol	0.0262	0.00200	0.0400	0	65.6	30	110	7.21	30	
Biphenyl	0.0300	0.000800	0.0400	0	75.0	45	125	7.19	30	

**Qualifiers:** B Analyte detected in the associated Method Blank      DF Dilution Factor  
J Analyte detected between MDL and RL      MDL Method Detection Limit  
ND Not Detected at the Method Detection Limit      R RPD outside accepted control limits  
RL Reporting Limit      S Spike Recovery outside control limits  
J Analyte detected between SDL and RL      N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831D**

Sample ID: <b>LCSD-53588</b>	Batch ID: <b>53588</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>LCSD</b>	Run ID: <b>GCMS9_120831D</b>	Analysis Date: <b>8/31/2012 2:12:00 PM</b>	Prep Date: <b>8/30/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	0.0290	0.000800	0.0400	0	72.5	45	105	6.73	30	
Bis(2-chloroethyl)ether	0.0313	0.000800	0.0400	0	78.4	35	110	4.55	30	
Bis(2-chloroisopropyl)ether	0.0276	0.000800	0.0400	0	68.9	25	130	4.40	30	
Bis(2-ethylhexyl)phthalate	0.0350	0.00300	0.0400	0	87.6	40	125	5.93	30	
Butyl benzyl phthalate	0.0347	0.00600	0.0400	0	86.6	45	115	6.53	30	
Carbazole	0.0317	0.000800	0.0400	0	79.2	50	115	11.0	30	
Chrysene	0.0307	0.000800	0.0400	0	76.8	55	110	5.45	30	
Di-n-butyl phthalate	0.0382	0.00600	0.0400	0	95.4	55	115	10.1	30	
Di-n-octyl phthalate	0.0468	0.00600	0.0400	0	117	35	135	2.60	30	
Dibenz[a,h]anthracene	0.0396	0.000800	0.0400	0	99.1	40	125	3.18	30	
Dibenzofuran	0.0309	0.000800	0.0400	0	77.2	55	105	4.81	30	
Diethyl phthalate	0.0344	0.00600	0.0400	0	86.1	40	120	3.99	30	
Dimethyl phthalate	0.0329	0.00600	0.0400	0	82.3	25	125	5.67	30	
Fluoranthene	0.0351	0.000800	0.0400	0	87.9	55	115	9.75	30	
Fluorene	0.0340	0.000800	0.0400	0	85.0	50	110	5.77	30	
Hexachlorobenzene	0.0365	0.000800	0.0400	0	91.3	50	110	6.41	30	
Hexachlorobutadiene	0.0314	0.000800	0.0400	0	78.6	25	105	3.25	30	
Hexachlorocyclopentadiene	0.0269	0.00200	0.0400	0	67.2	25	125	2.35	30	
Hexachloroethane	0.0305	0.000800	0.0400	0	76.4	30	100	3.66	30	
Indeno[1,2,3-cd]pyrene	0.0393	0.000800	0.0400	0	98.2	45	125	4.72	30	
Isophorone	0.0323	0.000800	0.0400	0	80.8	50	110	5.89	30	
N-Nitrosodi-n-propylamine	0.0349	0.000800	0.0400	0	87.3	35	130	9.28	30	
N-Nitrosodimethylamine	0.0234	0.000800	0.0400	0	58.4	25	110	11.5	30	
N-Nitrosodiphenylamine	0.0771	0.000800	0.0800	0	96.4	50	110	6.65	30	
Naphthalene	0.0300	0.000800	0.0400	0	75.0	40	100	5.88	30	
Nitrobenzene	0.0322	0.000800	0.0400	0	80.6	45	110	4.84	30	
Pentachlorobenzene	0.0680	0.000800	0.0800	0	85.0	35	120	7.20	30	
Pentachlorophenol	0.0387	0.000800	0.0400	0	96.9	40	115	8.27	30	
Phenanthrene	0.0307	0.000800	0.0400	0	76.8	50	115	8.29	30	
Phenol	0.0180	0.000800	0.0400	0	45.0	20	115	8.93	30	
Pyrene	0.0314	0.000800	0.0400	0	78.6	50	130	4.36	30	
Pyridine	0.0196	0.00200	0.0400	0	49.0	20	110	9.62	30	
Surr: 2,4,6-Tribromophenol	82.2		80.00		103	42	124	0	0	
Surr: 2-Fluorobiphenyl	66.4		80.00		83.0	50	110	0	0	
Surr: 2-Fluorophenol	55.0		80.00		68.8	20	110	0	0	
Surr: 4-Terphenyl-d14	74.0		80.00		92.5	51	135	0	0	
Surr: Nitrobenzene-d5	68.4		80.00		85.5	41	110	0	0	
Surr: Phenol-d6	40.8		80.00		51.0	20	115	0	0	

**Qualifiers:** B Analyte detected in the associated Method Blank      DF Dilution Factor  
J Analyte detected between MDL and RL      MDL Method Detection Limit  
ND Not Detected at the Method Detection Limit      R RPD outside accepted control limits  
RL Reporting Limit      S Spike Recovery outside control limits  
J Analyte detected between SDL and RL      N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831D**

Sample ID: <b>MB-53588</b>	Batch ID: <b>53588</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>MBLK</b>	Run ID: <b>GCMS9_120831D</b>	Analysis Date: <b>8/31/2012 5:49:00 PM</b>	Prep Date: <b>8/30/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000800								
1,2-Diphenylhydrazine	<0.000200	0.000800								
1-Methylnaphthalene	<0.000200	0.000800								N
2,4,5-Trichlorophenol	<0.000200	0.000800								
2,4,6-Trichlorophenol	<0.000200	0.000800								
2,4-Dichlorophenol	<0.000200	0.000800								
2,4-Dimethylphenol	<0.000200	0.000800								
2,4-Dinitrophenol	<0.00100	0.00400								
2,4-Dinitrotoluene	<0.000200	0.000800								
2,6-Dichlorophenol	<0.000200	0.000800								
2,6-Dinitrotoluene	<0.000200	0.000800								
2-Chloronaphthalene	<0.000200	0.000800								
2-Chlorophenol	<0.000200	0.000800								
2-Methylnaphthalene	<0.000200	0.000800								
2-Methylphenol	<0.000200	0.000800								
2-Nitroaniline	<0.000200	0.000800								
2-Nitrophenol	<0.000200	0.000800								
3,3'-Dichlorobenzidine	<0.00100	0.00400								
3-Nitroaniline	<0.000200	0.000800								
4,6-Dinitro-2-methylphenol	<0.000600	0.00200								
4-Bromophenyl phenyl ether	<0.000200	0.000800								
4-Chloro-3-methylphenol	<0.000200	0.000800								
4-Chloroaniline	<0.000600	0.00200								
4-Chlorophenyl phenyl ether	<0.000200	0.000800								
4-Methylphenol	<0.000200	0.000800								
4-Nitroaniline	<0.000200	0.000800								
4-Nitrophenol	<0.00100	0.00400								
Acenaphthene	<0.000200	0.000800								
Acenaphthylene	<0.000200	0.000800								
Acetophenone	<0.000200	0.000800								
Aniline	<0.000200	0.000800								
Anthracene	<0.000200	0.000800								
Benzidine	<0.00200	0.00600								
Benzo[a]anthracene	<0.000200	0.000800								
Benzo[a]pyrene	<0.000200	0.000800								
Benzo[b]fluoranthene	<0.000200	0.000800								
Benzo[g,h,i]perylene	<0.000200	0.000800								
Benzo[k]fluoranthene	<0.000200	0.000800								
Benzoic acid	0.00452	0.00600								
Benzyl alcohol	<0.000600	0.00200								
Biphenyl	<0.000200	0.000800								

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831D**

Sample ID: <b>MB-53588</b>	Batch ID: <b>53588</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>MBLK</b>	Run ID: <b>GCMS9_120831D</b>	Analysis Date: <b>8/31/2012 5:49:00 PM</b>	Prep Date: <b>8/30/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	<0.000200	0.000800								
Bis(2-chloroethyl)ether	<0.000200	0.000800								
Bis(2-chloroisopropyl)ether	<0.000200	0.000800								
Bis(2-ethylhexyl)phthalate	<0.00100	0.00300								
Butyl benzyl phthalate	<0.00200	0.00600								
Carbazole	<0.000200	0.000800								
Chrysene	<0.000200	0.000800								
Di-n-butyl phthalate	<0.00200	0.00600								
Di-n-octyl phthalate	<0.00200	0.00600								
Dibenz[a,h]anthracene	<0.000200	0.000800								
Dibenzofuran	<0.000200	0.000800								
Diethyl phthalate	<0.00200	0.00600								
Dimethyl phthalate	<0.00200	0.00600								
Fluoranthene	<0.000200	0.000800								
Fluorene	<0.000200	0.000800								
Hexachlorobenzene	<0.000200	0.000800								
Hexachlorobutadiene	<0.000200	0.000800								
Hexachlorocyclopentadiene	<0.000600	0.00200								
Hexachloroethane	<0.000200	0.000800								
Indeno[1,2,3-cd]pyrene	<0.000200	0.000800								
Isophorone	<0.000200	0.000800								
N-Nitrosodi-n-propylamine	<0.000100	0.000800								
N-Nitrosodimethylamine	<0.000200	0.000800								
N-Nitrosodiphenylamine	<0.000200	0.000800								
Naphthalene	<0.000200	0.000800								
Nitrobenzene	<0.000200	0.000800								
Pentachlorobenzene	<0.000200	0.000800								
Pentachlorophenol	<0.000200	0.000800								
Phenanthrene	<0.000200	0.000800								
Phenol	<0.000200	0.000800								
Pyrene	<0.000200	0.000800								
Pyridine	<0.000800	0.00200								
Surr: 2,4,6-Tribromophenol	86.6		80.00		108	42	124			
Surr: 2-Fluorobiphenyl	70.8		80.00		88.5	50	110			
Surr: 2-Fluorophenol	49.8		80.00		62.3	20	110			
Surr: 4-Terphenyl-d14	76.8		80.00		96.0	51	135			
Surr: Nitrobenzene-d5	73.4		80.00		91.8	41	110			
Surr: Phenol-d6	32.2		80.00		40.2	20	115			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831D**

Sample ID: <b>ICV-120831</b>	Batch ID: <b>R62451</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>ICV</b>	Run ID: <b>GCMS9_120831D</b>	Analysis Date: <b>8/31/2012 1:24:00 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	4.38	0.000800	4.00	0	109	80	120			
1,2-Diphenylhydrazine	3.88	0.000800	4.00	0	97.1	80	120			
1-Methylnaphthalene	9.02	0.000800	8.00	0	113	80	120			N
2,4,5-Trichlorophenol	4.21	0.000800	4.00	0	105	80	120			
2,4,6-Trichlorophenol	4.07	0.000800	4.00	0	102	80	120			
2,4-Dichlorophenol	4.15	0.000800	4.00	0	104	80	120			
2,4-Dimethylphenol	4.21	0.000800	4.00	0	105	80	120			
2,4-Dinitrophenol	4.12	0.00400	4.00	0	103	80	120			
2,4-Dinitrotoluene	3.74	0.000800	4.00	0	93.5	80	120			
2,6-Dichlorophenol	4.13	0.000800	4.00	0	103	80	120			
2,6-Dinitrotoluene	3.98	0.000800	4.00	0	99.4	80	120			
2-Chloronaphthalene	4.04	0.000800	4.00	0	101	80	120			
2-Chlorophenol	3.67	0.000800	4.00	0	91.7	80	120			
2-Methylnaphthalene	4.07	0.000800	4.00	0	102	80	120			
2-Methylphenol	3.56	0.000800	4.00	0	88.9	80	120			
2-Nitroaniline	3.57	0.000800	4.00	0	89.2	80	120			
2-Nitrophenol	4.16	0.000800	4.00	0	104	80	120			
3,3'-Dichlorobenzidine	4.44	0.00400	4.00	0	111	80	120			
3-Nitroaniline	3.67	0.000800	4.00	0	91.8	80	120			
4,6-Dinitro-2-methylphenol	4.24	0.00200	4.00	0	106	80	120			
4-Bromophenyl phenyl ether	4.36	0.000800	4.00	0	109	80	120			
4-Chloro-3-methylphenol	4.48	0.000800	4.00	0	112	80	120			
4-Chloroaniline	4.11	0.00200	4.00	0	103	80	120			
4-Chlorophenyl phenyl ether	4.11	0.000800	4.00	0	103	80	120			
4-Methylphenol	3.67	0.000800	4.00	0	91.7	80	120			
4-Nitroaniline	3.45	0.000800	4.00	0	86.2	80	120			
4-Nitrophenol	4.08	0.00400	4.00	0	102	80	120			
Acenaphthene	3.83	0.000800	4.00	0	95.8	80	120			
Acenaphthylene	4.04	0.000800	4.00	0	101	80	120			
Acetophenone	3.87	0.000800	4.00	0	96.8	80	120			
Aniline	3.48	0.000800	4.00	0	87.0	80	120			
Anthracene	4.04	0.000800	4.00	0	101	80	120			
Benzidine	3.51	0.00600	4.00	0	87.8	80	120			
Benzo[a]anthracene	4.23	0.000800	4.00	0	106	80	120			
Benzo[a]pyrene	4.14	0.000800	4.00	0	103	80	120			
Benzo[b]fluoranthene	4.67	0.000800	4.00	0	117	80	120			
Benzo[g,h,i]perylene	4.54	0.000800	4.00	0	114	80	120			
Benzo[k]fluoranthene	4.44	0.000800	4.00	0	111	80	120			
Benzoic acid	3.79	0.00600	4.00	0	94.8	80	120			
Benzyl alcohol	3.50	0.00200	4.00	0	87.6	80	120			
Biphenyl	4.06	0.000800	4.00	0	102	80	120			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS9\_120831D**

Sample ID: <b>ICV-120831</b>	Batch ID: <b>R62451</b>	TestNo: <b>SW8270C</b>	Units: <b>mg/L</b>
SampType: <b>ICV</b>	Run ID: <b>GCMS9_120831D</b>	Analysis Date: <b>8/31/2012 1:24:00 PM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	3.54	0.000800	4.00	0	88.4	80	120			
Bis(2-chloroethyl)ether	4.91	0.000800	4.00	0	123	80	120			S
Bis(2-chloroisopropyl)ether	3.20	0.000800	4.00	0	80.1	80	120			
Bis(2-ethylhexyl)phthalate	4.02	0.00300	4.00	0	101	80	120			
Butyl benzyl phthalate	3.97	0.00600	4.00	0	99.3	80	120			
Carbazole	4.07	0.000800	4.00	0	102	80	120			
Chrysene	3.74	0.000800	4.00	0	93.4	80	120			
Di-n-butyl phthalate	4.77	0.00600	4.00	0	119	80	120			
Di-n-octyl phthalate	4.23	0.00600	4.00	0	106	80	120			
Dibenz[a,h]anthracene	4.81	0.000800	4.00	0	120	80	120			
Dibenzofuran	3.88	0.000800	4.00	0	96.9	80	120			
Diethyl phthalate	4.15	0.00600	4.00	0	104	80	120			
Dimethyl phthalate	3.97	0.00600	4.00	0	99.3	80	120			
Fluoranthene	4.40	0.000800	4.00	0	110	80	120			
Fluorene	4.14	0.000800	4.00	0	104	80	120			
Hexachlorobenzene	4.49	0.000800	4.00	0	112	80	120			
Hexachlorobutadiene	4.37	0.000800	4.00	0	109	80	120			
Hexachlorocyclopentadiene	3.70	0.00200	4.00	0	92.5	80	120			
Hexachloroethane	4.04	0.000800	4.00	0	101	80	120			
Indeno[1,2,3-cd]pyrene	4.83	0.000800	4.00	0	121	80	120			S
Isophorone	3.92	0.000800	4.00	0	98.0	80	120			
N-Nitrosodi-n-propylamine	4.08	0.000800	4.00	0	102	80	120			
N-Nitrosodimethylamine	4.72	0.000800	4.00	0	118	80	120			
N-Nitrosodiphenylamine	4.07	0.000800	4.00	0	102	80	120			
Naphthalene	3.67	0.000800	4.00	0	91.8	80	120			
Nitrobenzene	3.84	0.000800	4.00	0	96.0	80	120			
Pentachlorobenzene	4.16	0.000800	4.00	0	104	80	120			
Pentachlorophenol	4.42	0.000800	4.00	0	111	80	120			
Phenanthrene	3.83	0.000800	4.00	0	95.9	80	120			
Phenol	3.15	0.000800	4.00	0	78.8	80	120			S
Pyrene	4.05	0.000800	4.00	0	101	80	120			
Pyridine	4.36	0.00200	4.00	0	109	80	120			
Surr: 2,4,6-Tribromophenol	4550		4000		114	80	120			
Surr: 2-Fluorobiphenyl	3940		4000		98.5	80	120			
Surr: 2-Fluorophenol	3690		4000		92.2	80	120			
Surr: 4-Terphenyl-d14	4400		4000		110	80	120			
Surr: Nitrobenzene-d5	4030		4000		101	80	120			
Surr: Phenol-d6	3590		4000		89.8	80	120			

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	DF Dilution Factor	
	J Analyte detected between MDL and RL	MDL Method Detection Limit	
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits	
	RL Reporting Limit	S Spike Recovery outside control limits	
	J Analyte detected between SDL and RL	N Parameter not NELAC certified	

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS7\_120831B**

The QC data in batch 53626 applies to the following samples: 1208256-01A, 1208256-02A, 1208256-03A, 1208256-04A, 1208256-05A, 1208256-06A

Sample ID: <b>LCS-53626</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>LCS</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 12:01:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0229	0.00100	0.0232	0	98.5	80	130			
1,1,1-Trichloroethane	0.0226	0.00100	0.0232	0	97.5	65	130			
1,1,2,2-Tetrachloroethane	0.0246	0.00100	0.0232	0	106	65	130			
1,1,2-Trichloroethane	0.0227	0.00100	0.0232	0	97.8	75	125			
1,1-Dichloroethane	0.0222	0.00100	0.0232	0	95.7	70	135			
1,1-Dichloroethene	0.0215	0.00100	0.0232	0	92.7	70	130			
1,1-Dichloropropene	0.0220	0.00100	0.0232	0	94.8	75	130			
1,2,3-Trichlorobenzene	0.0219	0.00500	0.0232	0	94.4	55	140			
1,2,3-Trichloropropane	0.0235	0.00100	0.0232	0	101	75	125			
1,2,4-Trichlorobenzene	0.0211	0.00500	0.0232	0	91.1	65	135			
1,2,4-Trimethylbenzene	0.0234	0.00500	0.0232	0	101	75	130			
1,2-Dibromo-3-chloropropane	0.0235	0.0100	0.0232	0	101	50	130			
1,2-Dibromoethane	0.0232	0.00100	0.0232	0	100	80	120			
1,2-Dichlorobenzene	0.0229	0.00100	0.0232	0	98.7	70	120			
1,2-Dichloroethane	0.0229	0.00100	0.0232	0	98.9	70	130			
1,2-Dichloropropane	0.0227	0.00100	0.0232	0	97.9	75	125			
1,3,5-Trimethylbenzene	0.0234	0.00500	0.0232	0	101	75	130			
1,3-Dichlorobenzene	0.0226	0.00100	0.0232	0	97.4	75	125			
1,3-Dichloropropane	0.0233	0.00100	0.0232	0	100	75	125			
1,4-Dichloro-2-butene	0.0245	0.00200	0.0232	0	106	50	150			
1,4-Dichlorobenzene	0.0230	0.00100	0.0232	0	99.1	75	125			
2,2-Dichloropropane	0.0231	0.00100	0.0232	0	99.4	70	135			
2-Butanone	0.0244	0.0150	0.0232	0	105	30	150			
2-Chloroethylvinylether	0.0190	0.0150	0.0232	0	82.0	50	150			
2-Chlorotoluene	0.0231	0.00100	0.0232	0	99.6	75	125			
2-Hexanone	0.0235	0.0150	0.0232	0	101	55	130			
4-Chlorotoluene	0.0232	0.00100	0.0232	0	100	75	130			
4-Methyl-2-pentanone	0.0241	0.0150	0.0232	0	104	60	135			
Acetone	0.0273	0.0150	0.0232	0	118	40	140			
Acrylonitrile	0.0489	0.00300	0.0464	0	105	50	150			
Benzene	0.0226	0.00100	0.0232	0	97.4	80	120			
Bromobenzene	0.0228	0.00100	0.0232	0	98.4	75	125			
Bromochloromethane	0.0236	0.00100	0.0232	0	102	65	130			
Bromodichloromethane	0.0229	0.00100	0.0232	0	98.8	75	120			
Bromoform	0.0229	0.00100	0.0232	0	98.9	70	130			
Bromomethane	0.0192	0.00100	0.0232	0	82.5	30	145			
Carbon disulfide	0.0211	0.0150	0.0232	0	91.0	35	160			
Carbon tetrachloride	0.0224	0.00100	0.0232	0	96.4	65	140			
Chlorobenzene	0.0230	0.00100	0.0232	0	99.1	80	120			
Chloroethane	0.0229	0.00100	0.0232	0	98.6	60	135			

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS7\_120831B**

Sample ID: <b>LCS-53626</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>LCS</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 12:01:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloroform	0.0223	0.00100	0.0232	0	96.3	65	135			
Chloromethane	0.0202	0.00100	0.0232	0	87.1	40	125			
cis-1,2-Dichloroethene	0.0233	0.00100	0.0232	0	101	70	125			
cis-1,3-Dichloropropene	0.0227	0.00100	0.0232	0	97.8	70	130			
Dibromochloromethane	0.0231	0.00100	0.0232	0	99.4	60	135			
Dibromomethane	0.0232	0.00100	0.0232	0	99.9	75	125			
Dichlorodifluoromethane	0.0188	0.00100	0.0232	0	81.1	30	155			
Ethylbenzene	0.0228	0.00100	0.0232	0	98.4	75	125			
Iodomethane	0.0207	0.0150	0.0232	0	89.4	50	150			
Isopropylbenzene	0.0233	0.00100	0.0232	0	101	75	125			
m,p-Xylene	0.0459	0.00200	0.0464	0	99.0	75	130			
Methyl tert-butyl ether	0.0231	0.00100	0.0232	0	99.7	65	125			
Methylene chloride	0.0229	0.00250	0.0232	0	98.6	55	140			
n-Butylbenzene	0.0233	0.00100	0.0232	0	101	70	135			
n-Propylbenzene	0.0232	0.00100	0.0232	0	100	70	130			
o-Xylene	0.0232	0.00100	0.0232	0	100	80	120			
p-Isopropyltoluene	0.0229	0.00100	0.0232	0	98.6	75	130			
sec-Butylbenzene	0.0231	0.00100	0.0232	0	99.6	70	125			
Styrene	0.0230	0.00100	0.0232	0	99.1	65	135			
tert-Butylbenzene	0.0229	0.00100	0.0232	0	98.9	70	130			
Tetrachloroethene	0.0224	0.00200	0.0232	0	96.5	45	150			
Toluene	0.0226	0.00200	0.0232	0	97.2	75	120			
trans-1,2-Dichloroethene	0.0219	0.00100	0.0232	0	94.3	60	140			
trans-1,3-Dichloropropene	0.0227	0.00100	0.0232	0	97.7	55	140			
Trichloroethene	0.0219	0.00200	0.0232	0	94.4	70	125			
Trichlorofluoromethane	0.0224	0.00100	0.0232	0	96.8	60	145			
Vinyl chloride	0.0215	0.00100	0.0232	0	92.7	50	145			
Surr: 1,2-Dichloroethane-d4	207		200.0		103	70	120			
Surr: 4-Bromofluorobenzene	201		200.0		101	75	120			
Surr: Dibromofluoromethane	200		200.0		100	85	115			
Surr: Toluene-d8	202		200.0		101	85	120			

Sample ID: <b>MB-53626</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>MBLK</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 12:26:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	<0.000200	0.00100								
1,1,1-Trichloroethane	<0.000200	0.00100								
1,1,2,2-Tetrachloroethane	<0.000200	0.00100								
1,1,2-Trichloroethane	<0.000200	0.00100								
1,1-Dichloroethane	<0.000200	0.00100								

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS7\_120831B**

Sample ID: <b>MB-53626</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>MBLK</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 12:26:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	<0.000200	0.00100								
1,1-Dichloropropene	<0.000200	0.00100								
1,2,3-Trichlorobenzene	<0.00150	0.00500								
1,2,3-Trichloropropane	<0.000300	0.00100								
1,2,4-Trichlorobenzene	<0.00150	0.00500								
1,2,4-Trimethylbenzene	<0.00150	0.00500								
1,2-Dibromo-3-chloropropane	<0.00300	0.0100								
1,2-Dibromoethane	<0.000200	0.00100								
1,2-Dichlorobenzene	<0.000300	0.00100								
1,2-Dichloroethane	<0.000300	0.00100								
1,2-Dichloropropane	<0.000200	0.00100								
1,3,5-Trimethylbenzene	<0.00150	0.00500								
1,3-Dichlorobenzene	<0.000300	0.00100								
1,3-Dichloropropane	<0.000200	0.00100								
1,4-Dichloro-2-butene	<0.00200	0.00200								
1,4-Dichlorobenzene	<0.000300	0.00100								
2,2-Dichloropropane	<0.000200	0.00100								
2-Butanone	<0.00500	0.0150								
2-Chloroethylvinylether	<0.00500	0.0150								
2-Chlorotoluene	<0.000300	0.00100								
2-Hexanone	<0.00500	0.0150								
4-Chlorotoluene	<0.000300	0.00100								
4-Methyl-2-pentanone	<0.00500	0.0150								
Acetone	<0.00500	0.0150								
Acrylonitrile	<0.00100	0.00300								
Benzene	<0.000200	0.00100								
Bromobenzene	<0.000200	0.00100								
Bromochloromethane	<0.000200	0.00100								
Bromodichloromethane	<0.000200	0.00100								
Bromoform	<0.000200	0.00100								
Bromomethane	<0.000300	0.00100								
Carbon disulfide	<0.00500	0.0150								
Carbon tetrachloride	<0.000200	0.00100								
Chlorobenzene	<0.000200	0.00100								
Chloroethane	<0.000300	0.00100								
Chloroform	<0.000300	0.00100								
Chloromethane	<0.000300	0.00100								
cis-1,2-Dichloroethene	<0.000200	0.00100								
cis-1,3-Dichloropropene	<0.000200	0.00100								
Dibromochloromethane	<0.000200	0.00100								
Dibromomethane	<0.000200	0.00100								

**Qualifiers:**  
 B Analyte detected in the associated Method Blank  
 J Analyte detected between MDL and RL  
 ND Not Detected at the Method Detection Limit  
 RL Reporting Limit  
 J Analyte detected between SDL and RL

DF Dilution Factor  
 MDL Method Detection Limit  
 R RPD outside accepted control limits  
 S Spike Recovery outside control limits  
 N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS7\_120831B**

Sample ID: <b>MB-53626</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>MBLK</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 12:26:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	<0.000200	0.00100								
Ethylbenzene	<0.000300	0.00100								
Iodomethane	<0.00500	0.0150								
Isopropylbenzene	<0.000200	0.00100								
m,p-Xylene	<0.000600	0.00200								
Methyl tert-butyl ether	<0.000300	0.00100								
Methylene chloride	<0.00250	0.00250								
n-Butylbenzene	<0.000300	0.00100								
n-Propylbenzene	<0.000300	0.00100								
o-Xylene	<0.000300	0.00100								
p-Isopropyltoluene	<0.000300	0.00100								
sec-Butylbenzene	<0.000300	0.00100								
Styrene	<0.000200	0.00100								
tert-Butylbenzene	<0.000300	0.00100								
Tetrachloroethene	<0.000600	0.00200								
Toluene	<0.000600	0.00200								
trans-1,2-Dichloroethene	<0.000200	0.00100								
trans-1,3-Dichloropropene	<0.000200	0.00100								
Trichloroethene	<0.000600	0.00200								
Trichlorofluoromethane	<0.000200	0.00100								
Vinyl chloride	<0.000100	0.00100								
Surr: 1,2-Dichloroethane-d4	202		200.0		101	70	120			
Surr: 4-Bromofluorobenzene	203		200.0		102	75	120			
Surr: Dibromofluoromethane	203		200.0		101	85	115			
Surr: Toluene-d8	204		200.0		102	85	120			

Sample ID: <b>1208290-03AMS</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>MS</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 2:02:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0233	0.00100	0.0232	0	100	80	130			
1,1,1-Trichloroethane	0.0234	0.00100	0.0232	0	101	65	130			
1,1,2,2-Tetrachloroethane	0.0254	0.00100	0.0232	0	110	65	130			
1,1,2-Trichloroethane	0.0234	0.00100	0.0232	0	101	75	125			
1,1-Dichloroethane	0.0231	0.00100	0.0232	0	99.4	70	135			
1,1-Dichloroethene	0.0233	0.00100	0.0232	0.00138	94.6	70	130			
1,1-Dichloropropene	0.0228	0.00100	0.0232	0	98.1	75	130			
1,2,3-Trichlorobenzene	0.0198	0.00500	0.0232	0	85.2	55	140			
1,2,3-Trichloropropane	0.0246	0.00100	0.0232	0	106	75	125			
1,2,4-Trichlorobenzene	0.0201	0.00500	0.0232	0	86.5	65	135			
1,2,4-Trimethylbenzene	0.0242	0.00500	0.0232	0	104	75	130			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS7\_120831B**

Sample ID: <b>1208290-03AMS</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>MS</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 2:02:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.0240	0.0100	0.0232	0	104	50	130			
1,2-Dibromoethane	0.0243	0.00100	0.0232	0	105	80	120			
1,2-Dichlorobenzene	0.0236	0.00100	0.0232	0	102	70	120			
1,2-Dichloroethane	0.0239	0.00100	0.0232	0	103	70	130			
1,2-Dichloropropane	0.0231	0.00100	0.0232	0	99.4	75	125			
1,3,5-Trimethylbenzene	0.0242	0.00500	0.0232	0	104	75	130			
1,3-Dichlorobenzene	0.0234	0.00100	0.0232	0	101	75	125			
1,3-Dichloropropane	0.0240	0.00100	0.0232	0	103	75	125			
1,4-Dichloro-2-butene	0.0254	0.00200	0.0232	0	110	50	150			
1,4-Dichlorobenzene	0.0235	0.00100	0.0232	0	101	75	125			
2,2-Dichloropropane	0.0230	0.00100	0.0232	0	99.3	70	135			
2-Butanone	0.0267	0.0150	0.0232	0	115	30	150			
2-Chloroethylvinylether	<0.00500	0.0150	0.0232	0	0	50	150			S
2-Chlorotoluene	0.0239	0.00100	0.0232	0	103	75	125			
2-Hexanone	0.0288	0.0150	0.0232	0	124	55	130			
4-Chlorotoluene	0.0239	0.00100	0.0232	0	103	75	130			
4-Methyl-2-pentanone	0.0282	0.0150	0.0232	0	122	60	135			
Acetone	0.0333	0.0150	0.0232	0.00705	113	40	140			
Acrylonitrile	0.0492	0.00300	0.0464	0	106	50	150			
Benzene	0.0232	0.00100	0.0232	0	100	80	120			
Bromobenzene	0.0235	0.00100	0.0232	0	101	75	125			
Bromochloromethane	0.0241	0.00100	0.0232	0	104	65	130			
Bromodichloromethane	0.0235	0.00100	0.0232	0	101	75	120			
Bromoform	0.0236	0.00100	0.0232	0	102	70	130			
Bromomethane	0.0193	0.00100	0.0232	0	83.1	30	145			
Carbon disulfide	0.0221	0.0150	0.0232	0	95.3	35	160			
Carbon tetrachloride	0.0232	0.00100	0.0232	0	99.8	65	140			
Chlorobenzene	0.0235	0.00100	0.0232	0	101	80	120			
Chloroethane	0.0211	0.00100	0.0232	0	90.8	60	135			
Chloroform	0.0238	0.00100	0.0232	0.000490	101	65	135			
Chloromethane	0.0208	0.00100	0.0232	0	89.6	40	125			
cis-1,2-Dichloroethene	0.0231	0.00100	0.0232	0	99.5	70	125			
cis-1,3-Dichloropropene	0.0226	0.00100	0.0232	0	97.4	70	130			
Dibromochloromethane	0.0241	0.00100	0.0232	0	104	60	135			
Dibromomethane	0.0239	0.00100	0.0232	0	103	75	125			
Dichlorodifluoromethane	0.0196	0.00100	0.0232	0	84.6	30	155			
Ethylbenzene	0.0234	0.00100	0.0232	0	101	75	125			
Iodomethane	0.0213	0.0150	0.0232	0	91.8	50	150			
Isopropylbenzene	0.0246	0.00100	0.0232	0	106	75	125			
m,p-Xylene	0.0475	0.00200	0.0464	0	102	75	130			
Methyl tert-butyl ether	0.0233	0.00100	0.0232	0	100	65	125			

**Qualifiers:** B Analyte detected in the associated Method Blank      DF Dilution Factor  
J Analyte detected between MDL and RL      MDL Method Detection Limit  
ND Not Detected at the Method Detection Limit      R RPD outside accepted control limits  
RL Reporting Limit      S Spike Recovery outside control limits  
J Analyte detected between SDL and RL      N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS7\_120831B**

Sample ID: <b>1208290-03AMS</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>MS</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 2:02:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methylene chloride	0.0216	0.00250	0.0232	0	93.3	55	140			
n-Butylbenzene	0.0240	0.00100	0.0232	0	103	70	135			
n-Propylbenzene	0.0241	0.00100	0.0232	0	104	70	130			
o-Xylene	0.0239	0.00100	0.0232	0	103	80	120			
p-Isopropyltoluene	0.0236	0.00100	0.0232	0	102	75	130			
sec-Butylbenzene	0.0240	0.00100	0.0232	0	104	70	125			
Styrene	0.0231	0.00100	0.0232	0	99.7	65	135			
tert-Butylbenzene	0.0238	0.00100	0.0232	0	102	70	130			
Tetrachloroethene	0.0229	0.00200	0.0232	0	98.8	45	150			
Toluene	0.0228	0.00200	0.0232	0	98.3	75	120			
trans-1,2-Dichloroethene	0.0224	0.00100	0.0232	0	96.6	60	140			
trans-1,3-Dichloropropene	0.0230	0.00100	0.0232	0	99.4	55	140			
Trichloroethene	0.0652	0.00200	0.0232	0.0418	101	70	125			
Trichlorofluoromethane	0.0233	0.00100	0.0232	0	101	60	145			
Vinyl chloride	0.0221	0.00100	0.0232	0	95.1	50	145			
Surr: 1,2-Dichloroethane-d4	210		200.0		105	70	120			
Surr: 4-Bromofluorobenzene	203		200.0		101	75	120			
Surr: Dibromofluoromethane	202		200.0		101	85	115			
Surr: Toluene-d8	201		200.0		101	85	120			

Sample ID: <b>1208290-03AMSD</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>MSD</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 2:27:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0197	0.00100	0.0232	0	84.8	80	130	16.8	30	
1,1,1-Trichloroethane	0.0196	0.00100	0.0232	0	84.3	65	130	17.7	30	
1,1,1,2,2-Tetrachloroethane	0.0218	0.00100	0.0232	0	94.0	65	130	15.4	30	
1,1,2-Trichloroethane	0.0200	0.00100	0.0232	0	86.2	75	125	15.4	30	
1,1-Dichloroethane	0.0194	0.00100	0.0232	0	83.5	70	135	17.4	30	
1,1-Dichloroethene	0.0202	0.00100	0.0232	0.00138	81.2	70	130	14.3	30	
1,1-Dichloropropene	0.0193	0.00100	0.0232	0	83.0	75	130	16.7	30	
1,2,3-Trichlorobenzene	0.0184	0.00500	0.0232	0	79.5	55	140	6.91	30	
1,2,3-Trichloropropane	0.0209	0.00100	0.0232	0	90.2	75	125	16.0	30	
1,2,4-Trichlorobenzene	0.0177	0.00500	0.0232	0	76.3	65	135	12.5	30	
1,2,4-Trimethylbenzene	0.0204	0.00500	0.0232	0	87.8	75	130	17.2	30	
1,2-Dibromo-3-chloropropane	0.0215	0.0100	0.0232	0	92.8	50	130	11.0	30	
1,2-Dibromoethane	0.0205	0.00100	0.0232	0	88.4	80	120	16.9	30	
1,2-Dichlorobenzene	0.0199	0.00100	0.0232	0	85.9	70	120	16.7	30	
1,2-Dichloroethane	0.0203	0.00100	0.0232	0	87.4	70	130	16.4	30	
1,2-Dichloropropane	0.0197	0.00100	0.0232	0	84.8	75	125	15.8	30	
1,3,5-Trimethylbenzene	0.0205	0.00500	0.0232	0	88.5	75	130	16.2	30	

**Qualifiers:** B Analyte detected in the associated Method Blank      DF Dilution Factor  
J Analyte detected between MDL and RL      MDL Method Detection Limit  
ND Not Detected at the Method Detection Limit      R RPD outside accepted control limits  
RL Reporting Limit      S Spike Recovery outside control limits  
J Analyte detected between SDL and RL      N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS7\_120831B**

Sample ID: <b>1208290-03AMSD</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>MSD</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 2:27:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	0.0200	0.00100	0.0232	0	86.1	75	125	16.0	30	
1,3-Dichloropropane	0.0203	0.00100	0.0232	0	87.5	75	125	16.8	30	
1,4-Dichloro-2-butene	0.0214	0.00200	0.0232	0	92.2	50	150	17.3	30	
1,4-Dichlorobenzene	0.0201	0.00100	0.0232	0	86.4	75	125	15.9	30	
2,2-Dichloropropane	0.0192	0.00100	0.0232	0	82.6	70	135	18.4	30	
2-Butanone	0.0232	0.0150	0.0232	0	99.8	30	150	14.3	30	
2-Chloroethylvinylether	<0.00500	0.0150	0.0232	0	0	50	150	0	30	S
2-Chlorotoluene	0.0202	0.00100	0.0232	0	86.9	75	125	16.9	30	
2-Hexanone	0.0262	0.0150	0.0232	0	113	55	130	9.52	30	
4-Chlorotoluene	0.0204	0.00100	0.0232	0	87.9	75	130	15.9	30	
4-Methyl-2-pentanone	0.0261	0.0150	0.0232	0	112	60	135	7.89	30	
Acetone	0.0281	0.0150	0.0232	0.00705	90.9	40	140	16.8	30	
Acrylonitrile	0.0436	0.00300	0.0464	0	93.9	50	150	12.0	30	
Benzene	0.0195	0.00100	0.0232	0	83.9	80	120	17.6	30	
Bromobenzene	0.0197	0.00100	0.0232	0	85.0	75	125	17.4	30	
Bromochloromethane	0.0197	0.00100	0.0232	0	84.9	65	130	20.3	30	
Bromodichloromethane	0.0197	0.00100	0.0232	0	84.9	75	120	17.7	30	
Bromoform	0.0198	0.00100	0.0232	0	85.4	70	130	17.4	30	
Bromomethane	0.0166	0.00100	0.0232	0	71.4	30	145	15.2	30	
Carbon disulfide	0.0180	0.0150	0.0232	0	77.8	35	160	20.3	30	
Carbon tetrachloride	0.0192	0.00100	0.0232	0	82.6	65	140	18.9	30	
Chlorobenzene	0.0199	0.00100	0.0232	0	85.6	80	120	16.7	30	
Chloroethane	0.0200	0.00100	0.0232	0	86.3	60	135	5.06	30	
Chloroform	0.0202	0.00100	0.0232	0.000490	84.8	65	135	16.7	30	
Chloromethane	0.0179	0.00100	0.0232	0	77.1	40	125	14.9	30	
cis-1,2-Dichloroethene	0.0203	0.00100	0.0232	0	87.3	70	125	13.0	30	
cis-1,3-Dichloropropene	0.0187	0.00100	0.0232	0	80.5	70	130	19.0	30	
Dibromochloromethane	0.0201	0.00100	0.0232	0	86.6	60	135	18.0	30	
Dibromomethane	0.0200	0.00100	0.0232	0	86.4	75	125	17.5	30	
Dichlorodifluoromethane	0.0166	0.00100	0.0232	0	71.5	30	155	16.8	30	
Ethylbenzene	0.0197	0.00100	0.0232	0	84.9	75	125	17.2	30	
Iodomethane	0.0179	0.0150	0.0232	0	77.2	50	150	17.3	30	
Isopropylbenzene	0.0205	0.00100	0.0232	0	88.4	75	125	18.3	30	
m,p-Xylene	0.0391	0.00200	0.0464	0	84.2	75	130	19.5	30	
Methyl tert-butyl ether	0.0198	0.00100	0.0232	0	85.5	65	125	16.0	30	
Methylene chloride	0.0192	0.00250	0.0232	0	82.5	55	140	12.2	30	
n-Butylbenzene	0.0204	0.00100	0.0232	0	88.1	70	135	15.9	30	
n-Propylbenzene	0.0204	0.00100	0.0232	0	88.0	70	130	16.5	30	
o-Xylene	0.0204	0.00100	0.0232	0	87.9	80	120	16.0	30	
p-Isopropyltoluene	0.0201	0.00100	0.0232	0	86.4	75	130	16.3	30	
sec-Butylbenzene	0.0203	0.00100	0.0232	0	87.3	70	125	17.0	30	

**Qualifiers:** B Analyte detected in the associated Method Blank      DF Dilution Factor  
J Analyte detected between MDL and RL      MDL Method Detection Limit  
ND Not Detected at the Method Detection Limit      R RPD outside accepted control limits  
RL Reporting Limit      S Spike Recovery outside control limits  
J Analyte detected between SDL and RL      N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS7\_120831B**

Sample ID: <b>1208290-03AMSD</b>	Batch ID: <b>53626</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>MSD</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 2:27:00 PM</b>	Prep Date: <b>8/31/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Styrene	0.0194	0.00100	0.0232	0	83.4	65	135	17.8	30	
tert-Butylbenzene	0.0201	0.00100	0.0232	0	86.7	70	130	16.6	30	
Tetrachloroethene	0.0194	0.00200	0.0232	0	83.6	45	150	16.6	30	
Toluene	0.0194	0.00200	0.0232	0	83.5	75	120	16.3	30	
trans-1,2-Dichloroethene	0.0191	0.00100	0.0232	0	82.4	60	140	15.9	30	
trans-1,3-Dichloropropene	0.0194	0.00100	0.0232	0	83.7	55	140	17.1	30	
Trichloroethene	0.0605	0.00200	0.0232	0.0418	80.4	70	125	7.52	30	
Trichlorofluoromethane	0.0199	0.00100	0.0232	0	85.9	60	145	15.7	30	
Vinyl chloride	0.0189	0.00100	0.0232	0	81.5	50	145	15.5	30	
Surr: 1,2-Dichloroethane-d4	204		200.0		102	70	120	0	0	
Surr: 4-Bromofluorobenzene	202		200.0		101	75	120	0	0	
Surr: Dibromofluoromethane	200		200.0		99.8	85	115	0	0	
Surr: Toluene-d8	203		200.0		101	85	120	0	0	

**Qualifiers:**

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS7\_120831B**

Sample ID: <b>ICV-120831</b>	Batch ID: <b>R62339</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>ICV</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 9:36:00 AM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0468	0.00100	0.0464	0	101	80	120			
1,1,1-Trichloroethane	0.0458	0.00100	0.0464	0	98.6	80	120			
1,1,2,2-Tetrachloroethane	0.0482	0.00100	0.0464	0	104	80	120			
1,1,2-Trichloroethane	0.0456	0.00100	0.0464	0	98.3	80	120			
1,1-Dichloroethane	0.0446	0.00100	0.0464	0	96.1	80	120			
1,1-Dichloroethene	0.0430	0.00100	0.0464	0	92.6	80	120			
1,1-Dichloropropene	0.0445	0.00100	0.0464	0	95.8	80	120			
1,2,3-Trichlorobenzene	0.0451	0.00500	0.0464	0	97.2	80	120			
1,2,3-Trichloropropane	0.0464	0.00100	0.0464	0	100	80	120			
1,2,4-Trichlorobenzene	0.0454	0.00500	0.0464	0	97.7	80	120			
1,2,4-Trimethylbenzene	0.0478	0.00500	0.0464	0	103	80	120			
1,2-Dibromo-3-chloropropane	0.0477	0.0100	0.0464	0	103	80	120			
1,2-Dibromoethane	0.0466	0.00100	0.0464	0	100	80	120			
1,2-Dichlorobenzene	0.0464	0.00100	0.0464	0	100	80	120			
1,2-Dichloroethane	0.0452	0.00100	0.0464	0	97.5	80	120			
1,2-Dichloropropane	0.0455	0.00100	0.0464	0	98.1	80	120			
1,3,5-Trimethylbenzene	0.0474	0.00500	0.0464	0	102	80	120			
1,3-Dichlorobenzene	0.0462	0.00100	0.0464	0	99.6	80	120			
1,3-Dichloropropane	0.0459	0.00100	0.0464	0	98.8	80	120			
1,4-Dichloro-2-butene	0.0494	0.00200	0.0464	0	106	80	120			
1,4-Dichlorobenzene	0.0458	0.00100	0.0464	0	98.7	80	120			
2,2-Dichloropropane	0.0493	0.00100	0.0464	0	106	80	120			
2-Butanone	0.0482	0.0150	0.0464	0	104	80	120			
2-Chloroethylvinylether	0.0402	0.0150	0.0464	0	86.7	80	120			
2-Chlorotoluene	0.0462	0.00100	0.0464	0	99.6	80	120			
2-Hexanone	0.0491	0.0150	0.0464	0	106	80	120			
4-Chlorotoluene	0.0466	0.00100	0.0464	0	100	80	120			
4-Methyl-2-pentanone	0.0490	0.0150	0.0464	0	106	80	120			
Acetone	0.0532	0.0150	0.0464	0	115	80	120			
Acrylonitrile	0.0946	0.00300	0.0928	0	102	60	140			
Benzene	0.0444	0.00100	0.0464	0	95.7	80	120			
Bromobenzene	0.0460	0.00100	0.0464	0	99.1	80	120			
Bromochloromethane	0.0473	0.00100	0.0464	0	102	80	120			
Bromodichloromethane	0.0458	0.00100	0.0464	0	98.7	80	120			
Bromoform	0.0483	0.00100	0.0464	0	104	80	120			
Bromomethane	0.0379	0.00100	0.0464	0	81.7	80	120			
Carbon disulfide	0.0458	0.0150	0.0464	0	98.8	80	120			
Carbon tetrachloride	0.0454	0.00100	0.0464	0	97.9	80	120			
Chlorobenzene	0.0454	0.00100	0.0464	0	97.8	80	120			
Chloroethane	0.0426	0.00100	0.0464	0	91.9	80	120			
Chloroform	0.0442	0.00100	0.0464	0	95.3	80	120			

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	DF Dilution Factor	
	J Analyte detected between MDL and RL	MDL Method Detection Limit	
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits	
	RL Reporting Limit	S Spike Recovery outside control limits	
	J Analyte detected between SDL and RL	N Parameter not NELAC certified	

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: GCMS7\_120831B**

Sample ID: <b>ICV-120831</b>	Batch ID: <b>R62339</b>	TestNo: <b>SW8260C</b>	Units: <b>mg/L</b>
SampType: <b>ICV</b>	Run ID: <b>GCMS7_120831B</b>	Analysis Date: <b>8/31/2012 9:36:00 AM</b>	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloromethane	0.0393	0.00100	0.0464	0	84.8	80	120			
cis-1,2-Dichloroethene	0.0437	0.00100	0.0464	0	94.2	80	120			
cis-1,3-Dichloropropene	0.0464	0.00100	0.0464	0	99.9	80	120			
Dibromochloromethane	0.0465	0.00100	0.0464	0	100	80	120			
Dibromomethane	0.0461	0.00100	0.0464	0	99.3	80	120			
Dichlorodifluoromethane	0.0382	0.00100	0.0464	0	82.4	80	120			
Ethylbenzene	0.0455	0.00100	0.0464	0	98.0	80	120			
Iodomethane	0.0399	0.0150	0.0464	0	86.0	80	120			
Isopropylbenzene	0.0472	0.00100	0.0464	0	102	80	120			
m,p-Xylene	0.0923	0.00200	0.0928	0	99.4	80	120			
Methyl tert-butyl ether	0.0455	0.00100	0.0464	0	98.0	80	120			
Methylene chloride	0.0457	0.00250	0.0464	0	98.5	80	120			
n-Butylbenzene	0.0490	0.00100	0.0464	0	106	80	120			
n-Propylbenzene	0.0466	0.00100	0.0464	0	100	80	120			
o-Xylene	0.0470	0.00100	0.0464	0	101	80	120			
p-Isopropyltoluene	0.0477	0.00100	0.0464	0	103	80	120			
sec-Butylbenzene	0.0470	0.00100	0.0464	0	101	80	120			
Styrene	0.0463	0.00100	0.0464	0	99.7	80	120			
tert-Butylbenzene	0.0469	0.00100	0.0464	0	101	80	120			
Tetrachloroethene	0.0453	0.00200	0.0464	0	97.7	80	120			
Toluene	0.0446	0.00200	0.0464	0	96.2	80	120			
trans-1,2-Dichloroethene	0.0439	0.00100	0.0464	0	94.5	80	120			
trans-1,3-Dichloropropene	0.0469	0.00100	0.0464	0	101	80	120			
Trichloroethene	0.0435	0.00200	0.0464	0	93.8	80	120			
Trichlorofluoromethane	0.0444	0.00100	0.0464	0	95.6	80	120			
Vinyl chloride	0.0421	0.00100	0.0464	0	90.7	80	120			
Surr: 1,2-Dichloroethane-d4	205		200.0		103	70	120			
Surr: 4-Bromofluorobenzene	200		200.0		99.9	75	120			
Surr: Dibromofluoromethane	201		200.0		101	85	115			
Surr: Toluene-d8	200		200.0		100	85	120			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: IC\_120829A**

The QC data in batch 53567 applies to the following samples: 1208256-01F, 1208256-03F, 1208256-04F, 1208256-05F

Sample ID: <b>LCS-53567</b>		Batch ID: <b>53567</b>		TestNo: <b>E300</b>		Units: <b>mg/L</b>				
SampType: <b>LCS</b>		Run ID: <b>IC_120829A</b>		Analysis Date: <b>8/29/2012 9:59:33 AM</b>		Prep Date: <b>8/29/2012</b>				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.56	1.00	10.00	0	95.6	90	110			
Sulfate	29.6	3.00	30.00	0	98.7	90	110			

Sample ID: <b>LCSD-53567</b>		Batch ID: <b>53567</b>		TestNo: <b>E300</b>		Units: <b>mg/L</b>				
SampType: <b>LCSD</b>		Run ID: <b>IC_120829A</b>		Analysis Date: <b>8/29/2012 10:11:10 AM</b>		Prep Date: <b>8/29/2012</b>				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.47	1.00	10.00	0	94.7	90	110	0.958	20	
Sulfate	29.6	3.00	30.00	0	98.6	90	110	0.061	20	

Sample ID: <b>MB-53567</b>		Batch ID: <b>53567</b>		TestNo: <b>E300</b>		Units: <b>mg/L</b>				
SampType: <b>MBLK</b>		Run ID: <b>IC_120829A</b>		Analysis Date: <b>8/29/2012 10:22:46 AM</b>		Prep Date: <b>8/29/2012</b>				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Sulfate	<1.00	3.00								

Sample ID: <b>1208244-01C MS</b>		Batch ID: <b>53567</b>		TestNo: <b>E300</b>		Units: <b>mg/L</b>				
SampType: <b>MS</b>		Run ID: <b>IC_120829A</b>		Analysis Date: <b>8/29/2012 10:57:16 AM</b>		Prep Date: <b>8/29/2012</b>				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1390	100	1000	473.8	91.4	90	110			
Sulfate	3480	300	3000	545.7	97.8	90	110			

Sample ID: <b>1208244-01C MSD</b>		Batch ID: <b>53567</b>		TestNo: <b>E300</b>		Units: <b>mg/L</b>				
SampType: <b>MSD</b>		Run ID: <b>IC_120829A</b>		Analysis Date: <b>8/29/2012 11:08:52 AM</b>		Prep Date: <b>8/29/2012</b>				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1390	100	1000	473.8	92.1	90	110	0.517	20	
Sulfate	3490	300	3000	545.7	98.1	90	110	0.261	20	

Sample ID: <b>1208256-01F DUP</b>		Batch ID: <b>53567</b>		TestNo: <b>E300</b>		Units: <b>mg/L</b>				
SampType: <b>DUP</b>		Run ID: <b>IC_120829A</b>		Analysis Date: <b>8/29/2012 12:24:58 PM</b>		Prep Date: <b>8/29/2012</b>				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1330	100	0	1335				0.667	10	
Sulfate	7740	300	0	7774				0.390	10	

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: IC\_120829A**

Sample ID: <b>1208256-01F MS</b>	Batch ID: <b>53567</b>	TestNo: <b>E300</b>	Units: <b>mg/L</b>							
SampType: <b>MS</b>	Run ID: <b>IC_120829A</b>	Analysis Date: <b>8/29/2012 12:36:34 PM</b>	Prep Date: <b>8/29/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1720	100	1000	801.2	91.5	90	110			
Sulfate	7680	300	3000	4664	100	90	110			

Sample ID: <b>1208256-01F MSD</b>	Batch ID: <b>53567</b>	TestNo: <b>E300</b>	Units: <b>mg/L</b>							
SampType: <b>MSD</b>	Run ID: <b>IC_120829A</b>	Analysis Date: <b>8/29/2012 12:48:11 PM</b>	Prep Date: <b>8/29/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1710	100	1000	801.2	91.1	90	110	0.251	20	
Sulfate	7680	300	3000	4664	101	90	110	0.061	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: IC\_120829A**

Sample ID: <b>ICV-120829</b>	Batch ID: <b>R62269</b>	TestNo: <b>E300</b>	Units: <b>mg/L</b>							
SampType: <b>ICV</b>	Run ID: <b>IC_120829A</b>	Analysis Date: <b>8/29/2012 9:20:02 AM</b>	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.5	1.00	25.00	0	97.9	90	110			
Sulfate	76.5	3.00	75.00	0	102	90	110			

Sample ID: <b>CCV1-120829</b>	Batch ID: <b>R62269</b>	TestNo: <b>E300</b>	Units: <b>mg/L</b>							
SampType: <b>CCV</b>	Run ID: <b>IC_120829A</b>	Analysis Date: <b>8/29/2012 12:59:47 PM</b>	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.53	1.00	10.00	0	95.3	90	110			
Sulfate	30.0	3.00	30.00	0	100	90	110			

Sample ID: <b>CCV2-120829</b>	Batch ID: <b>R62269</b>	TestNo: <b>E300</b>	Units: <b>mg/L</b>							
SampType: <b>CCV</b>	Run ID: <b>IC_120829A</b>	Analysis Date: <b>8/29/2012 2:31:22 PM</b>	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.53	1.00	10.00	0	95.3	90	110			
Sulfate	30.1	3.00	30.00	0	100	90	110			

**Qualifiers:**

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: TITRATOR\_120829A**

The QC data in batch 53578 applies to the following samples: 1208256-01F, 1208256-03F, 1208256-04F, 1208256-05F

Sample ID: <b>1208256-01F DUP</b>	Batch ID: <b>53578</b>	TestNo: <b>M4500-H+ B</b>	Units: <b>pH Units</b>							
SampType: <b>DUP</b>	Run ID: <b>TITRATOR_120829A</b>	Analysis Date: <b>8/29/2012 12:24:00 PM</b>	Prep Date: <b>8/29/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.57	0	0	7.600				0.396	5	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: TITRATOR\_120829A**

Sample ID: <b>ICV-120829</b>	Batch ID: <b>R62270</b>	TestNo: <b>M4500-H+ B</b>	Units: <b>pH Units</b>							
SampType: <b>ICV</b>	Run ID: <b>TITRATOR_120829A</b>	Analysis Date: <b>8/29/2012 12:21:00 PM</b>	Prep Date: <b>8/29/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.99	0	10.00	0	99.9	99	101			

Sample ID: <b>CCV1-120829</b>	Batch ID: <b>R62270</b>	TestNo: <b>M4500-H+ B</b>	Units: <b>pH Units</b>							
SampType: <b>CCV</b>	Run ID: <b>TITRATOR_120829A</b>	Analysis Date: <b>8/29/2012 12:34:00 PM</b>	Prep Date: <b>8/29/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.03	0	7.000	0	100	97.1	102.9			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: TITRATOR\_120829B**

The QC data in batch 53584 applies to the following samples: 1208256-01F, 1208256-03F, 1208256-04F, 1208256-05F

Sample ID: <b>LCS-53584</b>	Batch ID: <b>53584</b>	TestNo: <b>M2320 B</b>	Units: <b>mg/L</b>							
SampType: <b>LCS</b>	Run ID: <b>TITRATOR_120829B</b>	Analysis Date: <b>8/29/2012 2:11:00 PM</b>	Prep Date: <b>8/29/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	51.0	20.0	50.00	0	102	74	129			

Sample ID: <b>MB-53584</b>	Batch ID: <b>53584</b>	TestNo: <b>M2320 B</b>	Units: <b>mg/L</b>							
SampType: <b>MBLK</b>	Run ID: <b>TITRATOR_120829B</b>	Analysis Date: <b>8/29/2012 2:13:00 PM</b>	Prep Date: <b>8/29/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	<10.0	20.0								
Alkalinity, Carbonate (As CaCO3)	<10.0	20.0								
Alkalinity, Hydroxide (As CaCO3)	<10.0	20.0								
Alkalinity, Total (As CaCO3)	<10.0	20.0								

Sample ID: <b>1208256-01F DUP</b>	Batch ID: <b>53584</b>	TestNo: <b>M2320 B</b>	Units: <b>mg/L</b>							
SampType: <b>DUP</b>	Run ID: <b>TITRATOR_120829B</b>	Analysis Date: <b>8/29/2012 2:26:00 PM</b>	Prep Date: <b>8/29/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	245	20.0	0	246.8				0.814	20	
Alkalinity, Carbonate (As CaCO3)	<10.0	20.0	0	0				0	20	
Alkalinity, Hydroxide (As CaCO3)	<10.0	20.0	0	0				0	20	
Alkalinity, Total (As CaCO3)	245	20.0	0	246.8				0.814	20	

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: TITRATOR\_120829B**

Sample ID: <b>ICV-120829</b>	Batch ID: <b>R62276</b>	TestNo: <b>M2320 B</b>	Units: <b>mg/L</b>
SampType: <b>ICV</b>	Run ID: <b>TITRATOR_120829B</b>	Analysis Date: <b>8/29/2012 2:06:00 PM</b>	Prep Date: <b>8/29/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	5.76	20.0	0							
Alkalinity, Carbonate (As CaCO3)	95.2	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	<10.0	20.0	0							
Alkalinity, Total (As CaCO3)	101	20.0	100.0	0	101	98	102			

Sample ID: <b>CCV1-120829</b>	Batch ID: <b>R62276</b>	TestNo: <b>M2320 B</b>	Units: <b>mg/L</b>
SampType: <b>CCV</b>	Run ID: <b>TITRATOR_120829B</b>	Analysis Date: <b>8/29/2012 3:06:00 PM</b>	Prep Date: <b>8/29/2012</b>

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	14.2	20.0	0							
Alkalinity, Carbonate (As CaCO3)	86.6	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	<10.0	20.0	0							
Alkalinity, Total (As CaCO3)	101	20.0	100.0	0	101	90	110			

<p><b>Qualifiers:</b></p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: TOC\_120906A**

The QC data in batch 53713 applies to the following samples: 1208256-01C, 1208256-03C, 1208256-04C, 1208256-05C

Sample ID: <b>LCS-53713</b>	Batch ID: <b>53713</b>	TestNo: <b>M5310C</b>	Units: <b>mg/L</b>							
SampType: <b>LCS</b>	Run ID: <b>TOC_120906A</b>	Analysis Date: <b>9/6/2012 11:51:00 AM</b>	Prep Date: <b>9/6/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	10.5	1.00	10.00	0	105	80	120			

Sample ID: <b>MB-53713</b>	Batch ID: <b>53713</b>	TestNo: <b>M5310C</b>	Units: <b>mg/L</b>							
SampType: <b>MBLK</b>	Run ID: <b>TOC_120906A</b>	Analysis Date: <b>9/6/2012 1:46:00 PM</b>	Prep Date: <b>9/6/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	<0.300	1.00								

Sample ID: <b>1208256-03C MS</b>	Batch ID: <b>53713</b>	TestNo: <b>M5310C</b>	Units: <b>mg/L</b>							
SampType: <b>MS</b>	Run ID: <b>TOC_120906A</b>	Analysis Date: <b>9/6/2012 3:30:00 PM</b>	Prep Date: <b>9/6/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	10.5	1.00	10.00	0.5907	99.2	80	120			

Sample ID: <b>1208256-03C MSD</b>	Batch ID: <b>53713</b>	TestNo: <b>M5310C</b>	Units: <b>mg/L</b>							
SampType: <b>MSD</b>	Run ID: <b>TOC_120906A</b>	Analysis Date: <b>9/6/2012 3:51:00 PM</b>	Prep Date: <b>9/6/2012</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	10.5	1.00	10.00	0.5907	98.9	80	120	0.219	15	

**Qualifiers:**

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1208256  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID: TOC\_120906A**

Sample ID: <b>ICV-15ppm</b>	Batch ID: <b>R62430</b>	TestNo: <b>M5310C</b>	Units: <b>mg/L</b>							
SampType: <b>ICV</b>	Run ID: <b>TOC_120906A</b>	Analysis Date: <b>9/6/2012 11:27:00 AM</b>	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	16.4	1.00	15.00	0	109	90	110			

Sample ID: <b>CCV-120906</b>	Batch ID: <b>R62430</b>	TestNo: <b>M5310C</b>	Units: <b>mg/L</b>							
SampType: <b>CCV</b>	Run ID: <b>TOC_120906A</b>	Analysis Date: <b>9/6/2012 4:11:00 PM</b>	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	10.3	1.00	10.00	0	103	80	120			

**Qualifiers:**

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

**Lab Order:** 1208256  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**Sequence Report****Run ID: CETAC\_HG\_120906C**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV2-120906	----	SW7470A	R62406	1	9/6/2012 1:56:41 PM		A
ICB2-120906	----	SW7470A	R62406	1	9/6/2012 1:58:46 PM		A
MB-53669	----	SW7470A	53669	1	9/6/2012 2:03:05 PM	9/5/2012 9:07:23 AM	A
LCS-53669	----	SW7470A	53669	1	9/6/2012 2:15:46 PM	9/5/2012 9:07:23 AM	A
LCSD-53669	----	SW7470A	53669	1	9/6/2012 2:24:09 PM	9/5/2012 9:07:23 AM	A
CCV1-120906	----	SW7470A	R62406	1	9/6/2012 2:34:24 PM		A
CCB1-120906	----	SW7470A	R62406	1	9/6/2012 2:36:28 PM		A
1208256-03E	HLSF-3839-HMW-035-0812	SW7470A	53669	1	9/6/2012 2:44:38 PM	9/5/2012 9:07:23 AM	A
1208256-03E SD	HLSF-3839-HMW-035-0812	SW7470A	53669	5	9/6/2012 2:46:42 PM	9/5/2012 9:07:23 AM	A
1208256-03E PDS	HLSF-3839-HMW-035-0812	SW7470A	53669	1	9/6/2012 2:48:44 PM	9/5/2012 9:07:23 AM	A
1208256-03E MS	HLSF-3839-HMW-035-0812MS	SW7470A	53669	1	9/6/2012 2:50:47 PM	9/5/2012 9:07:23 AM	A
1208256-03E MSD	HLSF-3839-HMW-035-	SW7470A	53669	1	9/6/2012 2:52:50 PM	9/5/2012 9:07:23 AM	A
1208256-01D	HLSF-3839-HMW-008-0812	SW7470A	53669	1	9/6/2012 2:54:54 PM	9/5/2012 9:07:23 AM	A
1208256-01E	HLSF-3839-HMW-008-0812	SW7470A	53669	1	9/6/2012 2:56:57 PM	9/5/2012 9:07:23 AM	A
CCV2-120906	----	SW7470A	R62406	1	9/6/2012 2:59:02 PM		A
CCB2-120906	----	SW7470A	R62406	1	9/6/2012 3:01:06 PM		A
1208256-03D	HLSF-3839-HMW-035-0812	SW7470A	53669	1	9/6/2012 3:03:09 PM	9/5/2012 9:07:23 AM	A
1208256-04D	HLSF-3839-HMW-135-0812	SW7470A	53669	1	9/6/2012 3:05:12 PM	9/5/2012 9:07:23 AM	A
1208256-04E	HLSF-3839-HMW-135-0812	SW7470A	53669	1	9/6/2012 3:07:16 PM	9/5/2012 9:07:23 AM	A
1208256-05D	HLSF-3839-HMW-034-0812	SW7470A	53669	1	9/6/2012 3:09:19 PM	9/5/2012 9:07:23 AM	A
1208256-05E	HLSF-3839-HMW-034-0812	SW7470A	53669	1	9/6/2012 3:11:23 PM	9/5/2012 9:07:23 AM	A
CCV3-120906	----	SW7470A	R62406	1	9/6/2012 3:13:28 PM		A
CCB3-120906	----	SW7470A	R62406	1	9/6/2012 3:15:32 PM		A

**Run ID: GC15\_120830A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120830	----	M8015D	R62324	1	8/30/2012 9:38:20 AM		A
LCS-53574	----	M8015D	53574	1	8/30/2012 10:05:51 AM	8/29/2012 12:45:37 PM	A
LCSD-53574	----	M8015D	53574	1	8/30/2012 10:14:20 AM	8/29/2012 12:45:37 PM	A
MB-53574	----	M8015D	53574	1	8/30/2012 10:31:18 AM	8/29/2012 12:45:37 PM	A
CCV1-120830	----	M8015D	R62324	1	8/30/2012 11:30:34 AM		A
CCV2-120830	----	M8015D	R62324	1	8/30/2012 1:12:17 PM		A
1208256-03H	HLSF-3839-HMW-035-0812	M8015D	53574	1	8/30/2012 2:20:02 PM	8/29/2012 12:45:37 PM	A
1208256-04H	HLSF-3839-HMW-135-0812	M8015D	53574	1	8/30/2012 2:28:31 PM	8/29/2012 12:45:37 PM	A
1208256-05H	HLSF-3839-HMW-034-0812	M8015D	53574	1	8/30/2012 2:37:00 PM	8/29/2012 12:45:37 PM	A
1208256-01H	HLSF-3839-HMW-008-0812	M8015D	53574	1	8/30/2012 2:45:29 PM	8/29/2012 12:45:37 PM	A
CCV3-120830	----	M8015D	R62324	1	8/30/2012 2:53:58 PM		A
1208256-03H	HLSF-3839-HMW-035-0812	M8015D	53574	1	8/30/2012 4:11:57 PM	8/29/2012 12:45:37 PM	A
CCV4-120830	----	M8015D	R62324	1	8/30/2012 4:45:49 PM		A

**Lab Order:** 1208256  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**Sequence Report**

**Run ID: GC4\_120905A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120905	----	M8015V	R62382	1	9/5/2012 12:28:24 PM		A
LCS-53683	----	M8015V	53683	1	9/5/2012 12:54:08 PM	9/5/2012 11:59:59 AM	A
MB-53683	----	M8015V	53683	1	9/5/2012 1:44:28 PM	9/5/2012 11:59:59 AM	A
1208256-01B	HLSF-3839-HMW-008-0812	M8015V	53683	1	9/5/2012 2:09:40 PM	9/5/2012 11:59:59 AM	A
1208256-03B	HLSF-3839-HMW-035-0812	M8015V	53683	1	9/5/2012 2:34:55 PM	9/5/2012 11:59:59 AM	A
1208256-04B	HLSF-3839-HMW-135-0812	M8015V	53683	1	9/5/2012 3:00:02 PM	9/5/2012 11:59:59 AM	A
1208256-05B	HLSF-3839-HMW-034-0812	M8015V	53683	1	9/5/2012 3:25:07 PM	9/5/2012 11:59:59 AM	A
1209014-01BMS	----	M8015V	53683	1	9/5/2012 5:06:14 PM	9/5/2012 11:59:59 AM	A
1209014-01BMSD	----	M8015V	53683	1	9/5/2012 5:31:01 PM	9/5/2012 11:59:59 AM	A
CCV1-120905	----	M8015V	R62382	1	9/5/2012 5:57:15 PM		A

**Run ID: GCMS7\_120831B**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120831	----	SW8260C	R62339	1	8/31/2012 9:36:00 AM		A
LCS-53626	----	SW8260C	53626	1	8/31/2012 12:01:00 PM	8/31/2012 11:01:43 AM	A
MB-53626	----	SW8260C	53626	1	8/31/2012 12:26:00 PM	8/31/2012 11:01:43 AM	A
1208290-03AMS	----	SW8260C	53626	1	8/31/2012 2:02:00 PM	8/31/2012 11:01:43 AM	A
1208290-03AMSD	----	SW8260C	53626	1	8/31/2012 2:27:00 PM	8/31/2012 11:01:43 AM	A
1208256-01A	HLSF-3839-HMW-008-0812	SW8260C	53626	1	8/31/2012 4:05:00 PM	8/31/2012 11:01:43 AM	A
1208256-02A	HLSF-3839-HMW-008-0812-TB	SW8260C	53626	1	8/31/2012 4:29:00 PM	8/31/2012 11:01:43 AM	T
1208256-03A	HLSF-3839-HMW-035-0812	SW8260C	53626	1	8/31/2012 4:54:00 PM	8/31/2012 11:01:43 AM	A
1208256-04A	HLSF-3839-HMW-135-0812	SW8260C	53626	1	8/31/2012 5:18:00 PM	8/31/2012 11:01:43 AM	A
1208256-05A	HLSF-3839-HMW-034-0812	SW8260C	53626	1	8/31/2012 5:42:00 PM	8/31/2012 11:01:43 AM	A
1208256-06A	HLSF-3839-HMW-135-0812-TB	SW8260C	53626	1	8/31/2012 6:07:00 PM	8/31/2012 11:01:43 AM	T

**Run ID: GCMS9\_120831C**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
DFTPP-120831	----	SW8270C	R62443	1	8/31/2012 12:20:00 PM		A
ICV-120831 APP9	----	SW8270C	R62443	1	8/31/2012 12:38:00 PM		A
LCS-53588	----	SW8270C	53588	1	8/31/2012 2:46:00 PM	8/30/2012 8:23:15 AM	A
LCSD-53588	----	SW8270C	53588	1	8/31/2012 3:08:00 PM	8/30/2012 8:23:15 AM	A
MB-53588	----	SW8270C	53588	1	8/31/2012 5:27:00 PM	8/30/2012 8:23:15 AM	A
1208256-01G	HLSF-3839-HMW-008-0812	SW8270C	53588	1	8/31/2012 6:35:00 PM	8/30/2012 8:23:15 AM	A
1208256-03G	HLSF-3839-HMW-035-0812	SW8270C	53588	1	8/31/2012 6:58:00 PM	8/30/2012 8:23:15 AM	A
1208256-04G	HLSF-3839-HMW-135-0812	SW8270C	53588	1	8/31/2012 7:20:00 PM	8/30/2012 8:23:15 AM	A
1208256-05G	HLSF-3839-HMW-034-0812	SW8270C	53588	1	8/31/2012 7:43:00 PM	8/30/2012 8:23:15 AM	A

**Lab Order:** 1208256  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

## Sequence Report

### Run ID: GCMS9\_120831D

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
DFTPP-120831	----	SW8270C	R62451	1	8/31/2012 12:20:00 PM		A
ICV-120831	----	SW8270C	R62451	1	8/31/2012 1:24:00 PM		A
LCS-53588	----	SW8270C	53588	1	8/31/2012 1:49:00 PM	8/30/2012 8:23:15 AM	A
LCSD-53588	----	SW8270C	53588	1	8/31/2012 2:12:00 PM	8/30/2012 8:23:15 AM	A
MB-53588	----	SW8270C	53588	1	8/31/2012 5:49:00 PM	8/30/2012 8:23:15 AM	A
1208256-01G	HLSF-3839-HMW-008-0812	SW8270C	53588	1	8/31/2012 8:06:00 PM	8/30/2012 8:23:15 AM	A
1208256-03G	HLSF-3839-HMW-035-0812	SW8270C	53588	1	8/31/2012 8:29:00 PM	8/30/2012 8:23:15 AM	A
1208256-04G	HLSF-3839-HMW-135-0812	SW8270C	53588	1	8/31/2012 8:52:00 PM	8/30/2012 8:23:15 AM	A
1208256-05G	HLSF-3839-HMW-034-0812	SW8270C	53588	1	8/31/2012 9:15:00 PM	8/30/2012 8:23:15 AM	A

### Run ID: IC\_120829A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120829	----	E300	R62269	1	8/29/2012 9:20:02 AM		A
LCS-53567	----	E300	53567	1	8/29/2012 9:59:33 AM	8/29/2012 9:44:09 AM	A
LCSD-53567	----	E300	53567	1	8/29/2012 10:11:10 AM	8/29/2012 9:44:09 AM	A
MB-53567	----	E300	53567	1	8/29/2012 10:22:46 AM	8/29/2012 9:44:09 AM	A
1208244-01C MS	----	E300	53567	100	8/29/2012 10:57:16 AM	8/29/2012 9:44:09 AM	A
1208244-01C MSD	----	E300	53567	100	8/29/2012 11:08:52 AM	8/29/2012 9:44:09 AM	A
1208256-01F	HLSF-3839-HMW-008-0812	E300	53567	100	8/29/2012 12:05:44 PM	8/29/2012 11:30:00 AM	A
1208256-01F DUP	HLSF-3839-HMW-008-0812PD9	E300	53567	100	8/29/2012 12:24:58 PM	8/29/2012 11:30:00 AM	A
1208256-01F MS	HLSF-3839-HMW-008-0812MS	E300	53567	100	8/29/2012 12:36:34 PM	8/29/2012 11:30:00 AM	A
1208256-01F MSD	HLSF-3839-HMW-008-	E300	53567	100	8/29/2012 12:48:11 PM	8/29/2012 11:30:00 AM	A
CCV1-120829	----	E300	R62269	1	8/29/2012 12:59:47 PM		A
1208256-03F	HLSF-3839-HMW-035-0812	E300	53567	100	8/29/2012 1:32:52 PM	8/29/2012 11:30:00 AM	A
1208256-04F	HLSF-3839-HMW-135-0812	E300	53567	100	8/29/2012 1:44:29 PM	8/29/2012 11:30:00 AM	A
1208256-05F	HLSF-3839-HMW-034-0812	E300	53567	100	8/29/2012 1:56:05 PM	8/29/2012 11:30:00 AM	A
CCV2-120829	----	E300	R62269	1	8/29/2012 2:31:22 PM		A

Lab Order: 1208256  
 Client: Zia Engineering & Environmental  
 Project: HELSTF Construction Landfill

## Sequence Report

Run ID: ICP-MS3\_120905A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
BLANK STD 1	----	SW6020	R62384	1	9/5/2012 10:48:00 AM		A
1/20 ppb STD.	----	SW6020	R62384	1	9/5/2012 10:54:00 AM		A
10/200 ppb STD.	----	SW6020	R62384	1	9/5/2012 11:00:00 AM		A
250/5000 ppb STD.	----	SW6020	R62384	1	9/5/2012 11:05:00 AM		A
500/10000 ppb STD.	----	SW6020	R62384	1	9/5/2012 11:11:00 AM		A
2000/25000 ppb ST	----	SW6020	R62384	1	9/5/2012 11:16:00 AM		A
ICV1-120905	----	SW6020	R62384	1	9/5/2012 11:50:00 AM		A
ICB1-120905	----	SW6020	R62384	1	9/5/2012 11:55:00 AM		A
MB-53642	----	SW6020	53642	1	9/5/2012 12:14:00 PM	9/4/2012 9:11:15 AM	A
LCS-53642	----	SW6020	53642	1	9/5/2012 12:20:00 PM	9/4/2012 9:11:15 AM	A
LCSD-53642	----	SW6020	53642	1	9/5/2012 12:26:00 PM	9/4/2012 9:11:15 AM	A
1208290-03C SD	----	SW6020	53642	5	9/5/2012 12:43:00 PM	9/4/2012 9:11:15 AM	A
1208256-01D	HLSF-3839-HMW-008-0812	SW6020	53642	1	9/5/2012 12:48:00 PM	9/4/2012 9:11:15 AM	A
1208256-03D	HLSF-3839-HMW-035-0812	SW6020	53642	1	9/5/2012 12:54:00 PM	9/4/2012 9:11:15 AM	A
1208256-04D	HLSF-3839-HMW-135-0812	SW6020	53642	1	9/5/2012 12:59:00 PM	9/4/2012 9:11:15 AM	A
1208256-05D	HLSF-3839-HMW-034-0812	SW6020	53642	1	9/5/2012 1:05:00 PM	9/4/2012 9:11:15 AM	A
1208290-03C PDS	----	SW6020	53642	1	9/5/2012 1:44:00 PM	9/4/2012 9:11:15 AM	A
1208290-03C MS	----	SW6020	53642	1	9/5/2012 1:50:00 PM	9/4/2012 9:11:15 AM	A
1208290-03C MSD	----	SW6020	53642	1	9/5/2012 1:55:00 PM	9/4/2012 9:11:15 AM	A
CCV1-120905	----	SW6020	R62384	1	9/5/2012 2:48:00 PM		A
CCB1-120905	----	SW6020	R62384	1	9/5/2012 3:22:00 PM		A
MB-53667	----	SW6020	53667	1	9/5/2012 3:58:00 PM	9/5/2012 9:05:14 AM	A
LCS-53667	----	SW6020	53667	1	9/5/2012 4:04:00 PM	9/5/2012 9:05:14 AM	A
LCSD-53667	----	SW6020	53667	1	9/5/2012 4:12:00 PM	9/5/2012 9:05:14 AM	A
1208256-01E	HLSF-3839-HMW-008-0812	SW6020	53667	1	9/5/2012 4:24:00 PM	9/5/2012 9:05:14 AM	A
1208256-01E SD	HLSF-3839-HMW-008-0812	SW6020	53667	5	9/5/2012 4:29:00 PM	9/5/2012 9:05:14 AM	A
1208256-03E	HLSF-3839-HMW-035-0812	SW6020	53667	1	9/5/2012 4:35:00 PM	9/5/2012 9:05:14 AM	A
1208256-04E	HLSF-3839-HMW-135-0812	SW6020	53667	1	9/5/2012 4:40:00 PM	9/5/2012 9:05:14 AM	A
1208256-05E	HLSF-3839-HMW-034-0812	SW6020	53667	1	9/5/2012 4:46:00 PM	9/5/2012 9:05:14 AM	A
1208256-01E PDS	HLSF-3839-HMW-008-0812	SW6020	53667	1	9/5/2012 5:03:00 PM	9/5/2012 9:05:14 AM	A
1208256-01E MS	HLSF-3839-HMW-008-0812MS	SW6020	53667	1	9/5/2012 5:08:00 PM	9/5/2012 9:05:14 AM	A
1208256-01E MSD	HLSF-3839-HMW-008-	SW6020	53667	1	9/5/2012 5:14:00 PM	9/5/2012 9:05:14 AM	A
CCV2-120905	----	SW6020	R62384	1	9/5/2012 5:42:00 PM		A
CCB2-120905	----	SW6020	R62384	1	9/5/2012 6:27:00 PM		A

**Lab Order:** 1208256  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**Sequence Report****Run ID: ICP-MS3\_120906A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
BLANK STD 1	----	SW6020	R62421	1	9/6/2012 12:13:00 PM		A
1/20 ppb STD.	----	SW6020	R62421	1	9/6/2012 12:19:00 PM		A
10/200 ppb STD.	----	SW6020	R62421	1	9/6/2012 12:25:00 PM		A
250/5000 ppb STD.	----	SW6020	R62421	1	9/6/2012 12:30:00 PM		A
500/10000 ppb STD.	----	SW6020	R62421	1	9/6/2012 12:36:00 PM		A
2000/25000 ppb ST	----	SW6020	R62421	1	9/6/2012 12:41:00 PM		A
ICV1-120906	----	SW6020	R62421	1	9/6/2012 1:20:00 PM		A
ICB1-120906	----	SW6020	R62421	1	9/6/2012 1:51:00 PM		A
MB-53667	----	SW6020	53667	1	9/6/2012 1:57:00 PM	9/5/2012 9:05:14 AM	A
LCS-53667	----	SW6020	53667	1	9/6/2012 2:05:00 PM	9/5/2012 9:05:14 AM	A
LCSD-53667	----	SW6020	53667	1	9/6/2012 2:10:00 PM	9/5/2012 9:05:14 AM	A
1208256-01E	HLSF-3839-HMW-008-0812	SW6020	53667	200	9/6/2012 2:22:00 PM	9/5/2012 9:05:14 AM	A
1208256-01E SD	HLSF-3839-HMW-008-0812	SW6020	53667	1000	9/6/2012 2:27:00 PM	9/5/2012 9:05:14 AM	A
1208256-03E	HLSF-3839-HMW-035-0812	SW6020	53667	100	9/6/2012 2:33:00 PM	9/5/2012 9:05:14 AM	A
1208256-04E	HLSF-3839-HMW-135-0812	SW6020	53667	100	9/6/2012 2:39:00 PM	9/5/2012 9:05:14 AM	A
1208256-05E	HLSF-3839-HMW-034-0812	SW6020	53667	100	9/6/2012 2:44:00 PM	9/5/2012 9:05:14 AM	A
1208256-03D	HLSF-3839-HMW-035-0812	SW6020	53642	100	9/6/2012 2:50:00 PM	9/4/2012 9:11:15 AM	A
1208256-04D	HLSF-3839-HMW-135-0812	SW6020	53642	100	9/6/2012 2:56:00 PM	9/4/2012 9:11:15 AM	A
1208256-05D	HLSF-3839-HMW-034-0812	SW6020	53642	100	9/6/2012 3:01:00 PM	9/4/2012 9:11:15 AM	A
1208256-01E PDS	HLSF-3839-HMW-008-0812	SW6020	53667	200	9/6/2012 3:07:00 PM	9/5/2012 9:05:14 AM	A
1208256-01E MS	HLSF-3839-HMW-008-0812MS	SW6020	53667	200	9/6/2012 3:13:00 PM	9/5/2012 9:05:14 AM	A
1208256-01E MSD	HLSF-3839-HMW-008-	SW6020	53667	200	9/6/2012 3:18:00 PM	9/5/2012 9:05:14 AM	A
1208256-01D	HLSF-3839-HMW-008-0812	SW6020	53642	200	9/6/2012 3:24:00 PM	9/4/2012 9:11:15 AM	A
1208256-01D SD	HLSF-3839-HMW-008-0812	SW6020	53642	1000	9/6/2012 3:30:00 PM	9/4/2012 9:11:15 AM	A
1208256-01D PDS	HLSF-3839-HMW-008-0812	SW6020	53642	200	9/6/2012 3:35:00 PM	9/4/2012 9:11:15 AM	A
CCV1-120906	----	SW6020	R62421	1	9/6/2012 3:41:00 PM		A
CCB1-120906	----	SW6020	R62421	1	9/6/2012 4:11:00 PM		A

**Run ID: TITRATOR\_120829A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV2-120829	----	M4500-H+ B	R62270	1	8/29/2012 12:18:00 PM	8/29/2012 12:18:00 PM	A
ICV1-120829	----	M4500-H+ B	R62270	1	8/29/2012 12:19:00 PM	8/29/2012 12:19:00 PM	A
ICV-120829	----	M4500-H+ B	R62270	1	8/29/2012 12:21:00 PM	8/29/2012 12:21:00 PM	A
1208256-01F	HLSF-3839-HMW-008-0812	M4500-H+ B	53578	1	8/29/2012 12:22:00 PM	8/29/2012 12:00:00 PM	A
1208256-01F DUP	HLSF-3839-HMW-008-0812PD9	M4500-H+ B	53578	1	8/29/2012 12:24:00 PM	8/29/2012 12:00:00 PM	A
1208256-03F	HLSF-3839-HMW-035-0812	M4500-H+ B	53578	1	8/29/2012 12:26:00 PM	8/29/2012 12:00:00 PM	A
1208256-04F	HLSF-3839-HMW-135-0812	M4500-H+ B	53578	1	8/29/2012 12:28:00 PM	8/29/2012 12:00:00 PM	A
1208256-05F	HLSF-3839-HMW-034-0812	M4500-H+ B	53578	1	8/29/2012 12:30:00 PM	8/29/2012 12:00:00 PM	A
CCV1-120829	----	M4500-H+ B	R62270	1	8/29/2012 12:34:00 PM	8/29/2012 12:34:00 PM	A

Lab Order: 1208256  
 Client: Zia Engineering & Environmental  
 Project: HELSTF Construction Landfill

**Sequence Report**

**Run ID: TITRATOR\_120829B**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120829	----	M2320 B	R62276	1	8/29/2012 2:06:00 PM	8/29/2012 2:06:00 PM	A
LCS-53584	----	M2320 B	53584	1	8/29/2012 2:11:00 PM	8/29/2012 2:00:00 PM	A
MB-53584	----	M2320 B	53584	1	8/29/2012 2:13:00 PM	8/29/2012 2:00:00 PM	A
1208256-01F	HLSF-3839-HMW-008-0812	M2320 B	53584	1	8/29/2012 2:19:00 PM	8/29/2012 2:00:00 PM	A
1208256-01F DUP	HLSF-3839-HMW-008-0812PD9	M2320 B	53584	1	8/29/2012 2:26:00 PM	8/29/2012 2:00:00 PM	A
1208256-03F	HLSF-3839-HMW-035-0812	M2320 B	53584	1	8/29/2012 2:31:00 PM	8/29/2012 2:00:00 PM	A
1208256-04F	HLSF-3839-HMW-135-0812	M2320 B	53584	1	8/29/2012 2:37:00 PM	8/29/2012 2:00:00 PM	A
1208256-05F	HLSF-3839-HMW-034-0812	M2320 B	53584	1	8/29/2012 2:42:00 PM	8/29/2012 2:00:00 PM	A
CCV1-120829	----	M2320 B	R62276	1	8/29/2012 3:06:00 PM	8/29/2012 3:06:00 PM	A

**Run ID: TOC\_120906A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-15ppm	----	M5310C	R62430	1	9/6/2012 11:27:00 AM		A
LCS-53713	----	M5310C	53713	1	9/6/2012 11:51:00 AM	9/6/2012 10:00:00 AM	A
MB-53713	----	M5310C	53713	1	9/6/2012 1:46:00 PM	9/6/2012 10:00:00 AM	A
1208256-01C	HLSF-3839-HMW-008-0812	M5310C	53713	1	9/6/2012 2:07:00 PM	9/6/2012 10:00:00 AM	A
1208256-03C	HLSF-3839-HMW-035-0812	M5310C	53713	1	9/6/2012 2:28:00 PM	9/6/2012 10:00:00 AM	A
1208256-04C	HLSF-3839-HMW-135-0812	M5310C	53713	1	9/6/2012 2:48:00 PM	9/6/2012 10:00:00 AM	A
1208256-05C	HLSF-3839-HMW-034-0812	M5310C	53713	1	9/6/2012 3:09:00 PM	9/6/2012 10:00:00 AM	A
1208256-03C MS	HLSF-3839-HMW-035-0812MS	M5310C	53713	1	9/6/2012 3:30:00 PM	9/6/2012 10:00:00 AM	A
1208256-03C MSD	HLSF-3839-HMW-035-	M5310C	53713	1	9/6/2012 3:51:00 PM	9/6/2012 10:00:00 AM	A
CCV-120906	----	M5310C	R62430	1	9/6/2012 4:11:00 PM		A

Manual Integrations Tracking Form - DoD QSM 4.2 Requirement

ICAL Folder: GCMS#9 SV120416B.CAL

Instrument ID: GCMS#9

<u>Sample ID</u>	<u>Analyte #1</u>	<u>Analyte #2</u>	<u>Analyte #3</u>	<u>Analyte #4</u>
ICAL POINT	Identification & Reason	Identification & Reason	Identification & Reason	Identification & Reason
CAL 1 0.04 PPM	MI for 2,6-dinitrotoluene because wrong peak was integrated.	MI for 2,4-dinitrotoluene because wrong peak was integrated.	MI for 1,4-dichlorobenzene because wrong peak was integrated.	
CAL 2 0.2 PPM	MI for benzoic acid because peak was partially integrated.			
CAL 3 0.5 PPM	N/A			
CAL 4 1.0 PPM	MI for benzoic acid because peak was partially integrated.			
CAL 5 2.0 PPM	MI for benzoic acid because peak was partially integrated.			
CAL 6 3.0 PPM	MI for benzoic acid because peak was partially integrated.			
CAL 7 4.0 PPB	MI for benzoic acid because peak was partially integrated.			
CAL 8 5.0 PPB	MI for benzoic acid because peak was partially integrated.			
SSCV 2000 PPB	MI for benzoic acid because peak was partially integrated.			

\*Manually Integrated = MI

DD Analyst

8/14/12 Date

David St. Nevel  
2<sup>nd</sup> Level Review

9/14/12 Date

Manual Integrations Tracking Form - DoD QSM 4.2 Requirement

Instrument ID: GCMS9

Data Folder: GCMS9 120831C

<u>Sample ID</u>	<u>Analyte #1</u> Identification & Reason	<u>Analyte #2</u> Identification & Reason	<u>Analyte #3</u> Identification & Reason	<u>Analyte #4</u> Identification & Reason
ICV-120831	N/A			
LCS-53588	MI for dimethylphenethylamine because peak was partially integrated.			
LCSD-53588	MI for dimethylphenethylamine because wrong peak was integrated.			

\*Manually Integrated = MI

D.O  
Analyst

9/09/2012  
Date

  
2<sup>nd</sup> Level Review

9/10/2012  
Date

Manual Integrations Tracking Form - DoD QSM 4.1 Requirement

Instrument ID: GCMS#9

Data Folder: GCMS9 120831D

<u>Sample ID</u>	<u>Analyte #1</u> Identification & Reason	<u>Analyte #2</u> Identification & Reason	<u>Analyte #3</u> Identification & Reason	<u>Analyte #4</u> Identification & Reason
ICV-120831	N/A.			
LCS-53588	MI for benzoic acid because the wrong peak was integrated.			
LCS-53588	MI for benzoic acid because the wrong peak was integrated.			

\*Manually Integrated = MI

D.O

9/10/2012

Analyst



2<sup>nd</sup> Level Review

9/10/2012

Date

MIGCMS9data